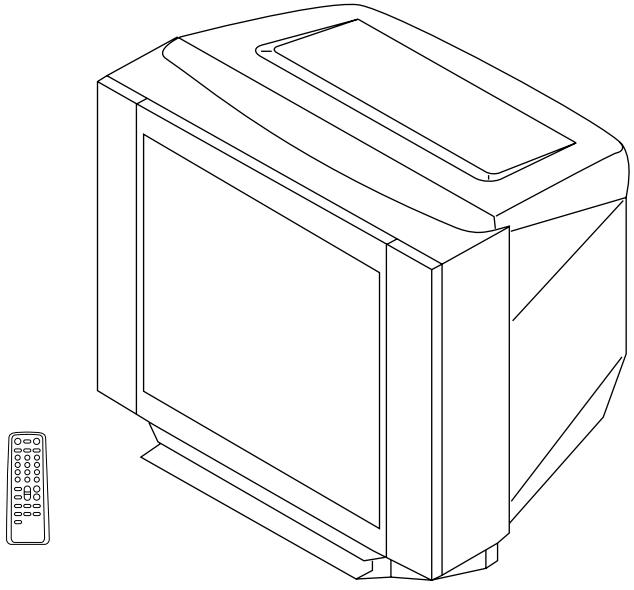
Self Diagnosis Supported model

SERVICE MANUAL

BG-3S CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-XF21M30	RM-952	Australia	SCC-U23B-A
KV-XF21M50	RM-952	GE	SCC-U12K-A
KV-XF51M65	RM-952	Indonesia	SCC-U20H-A

MODEL	COMMANDER	DEST.	CHASSIS NO.



MICROFILM

TRINITRON® COLOR TV

SONY®

SPECIFICATIONS

		Note
Power requirements	110-240 V AC, 50/60 Hz	
Power consumption (W)	Indicated on the rear of the TV	
Television system	B/G, I, D/K, M	
Color system	PAL, PAL 60, SECAM, NTSC4.43, NTSC3.58	
Stereo/Bilingual system	NICAM Stereo / Bilingual B/G, I: A2 Stereo / Bilingual (German) B/G	KV-XF21M30/XF51M65 only
Teletext language	English, Arabic, French	KV-XF51M65 only
Channel coverage		
B/G	VHF: E2 to E12 / UHF: E21 to E69 / CATV: S01 to S03, S1 to S41	KV-XF21M50/XF51M65
	VHF: 0 to 12, 5A, 9A / UHF: 28 to 69 / CATV: S01 to S03, S1 to S41	KV-XF21M30
I	UHF: B21 to B68 / CATV: S01 to S03, S1 to S41	
D/K	VHF: C1 to C12, R1 to R12 / UHF: C13 to C57, R21 to R60 CATV: Z1 to Z39, S01 to S03, S1 to S41	
M	VHF: A2 to A13 / UHF: A14 to A79 / CATV: A-8 to A-2, A to W+4, W+6 to W+84	
ㄱ (Antenna)	75-ohm external terminal	
Audio output	5W + 5W	KV-XF21M30/XF21M50
	3W + 3W	KV-XF51M65
3D WOOFER	9W	KV-XF51M65 only
Number of terminal		
(Video)	Input: 2 Output: 1	Phono jacks; 1 V_{P-P}, 75 ohms
♪ (Audio)	Input: 2 Output: 1	Phono jacks; 500 mVrms
(Headphone)	Output: 1	Minijack
Picture tube	21 inch	
Tube size (cm)	54	Measured diagonally
Screen size (cm)	51	Measured diagonally
Dimension (w/h/d, mm)	640 × 456 × 488	KV-XF21M30/XF21M50
	640 × 470 × 488	KV-XF51M65
Mass (kg)	27	KV-XF21M30/XF21M50
	29	KV-XF51M65

Design and specifications are subject to change without notice.

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

TABLE OF CONTENTS

Section	Title	Page
	SELF DIAGNOSIS FUNCTION	4
1.	**GENERAL**	8
2.	**DISASSEMBLY**	
2-1.	3D Speaker Box Removal	23
2-2.	Rear Cover Removal	23
2-3.	Chassis Assy Removal	23
2-4.	F Bracket Removal	23
2-5.	Service Position	24
2-6.	Replacement of Parts	24
2-6-1.	Replacement of Control Button	24
2-6-2.	Replacement of Light Guide	24
2-7.	V1 Board Removal	24
2-8.	H4 and K1 Board Removal	25
2-9.	Terminal Bracket Removal	25
2-10.	Degauss Coil Removal	25
2-11.	Picture Tube Removal	26
3.	**SET-UP ADJUSTMENTS**	
3-1.	Beam Landing	27
3-2.	Convergence	28
3-3.	Focus Adjustment	30
3-4.	G2 (Screen) and White Balance Adjustments	30
4.	**CIRCUIT ADJUSTMENT**	
4-1.	Adjustments with Commander	31
4-2.	Adjustment Method	32
4-3.	Picture Quality Adjustments	37
4-4.	A Board Adjustment After IC003 (Memory) Replacement	37
4-5.	Picture Distortion Adjustment	38
5.	**DIAGRAMS**	
5-1.	Block Diagram	39
5-2.	Frame Schematic Diagram	42
5-3	Circuit Boards Location	45
5-4.	Schematic Diagrams and Printed Wiring Boards	46
(1)	Schematic Diagram of A (1/2) Board	49
(2)	Schematic Diagrams of A (2/2) and J2 Boards	53
(3)	Schematic Diagrams of C3, H4 and VM1 Boards	57
(4)	Schematic Diagrams of F, K1 and V1 Boards	61
5-5.	Semiconductors	65
6.	**EXPLODED VIEWS**	
6-1.	Chassis	67
6-2.	3D Speaker (KV-XF51M65 only)	69
7.	**ELECTRICAL PARTS LIST**	70

SELF DIAGNOSTIC FUNCTION

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER lamp will automatically begin to flash.
The number of times the lamp flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER lamp flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

1. DIAGNOSTIC TEST INDICATORS

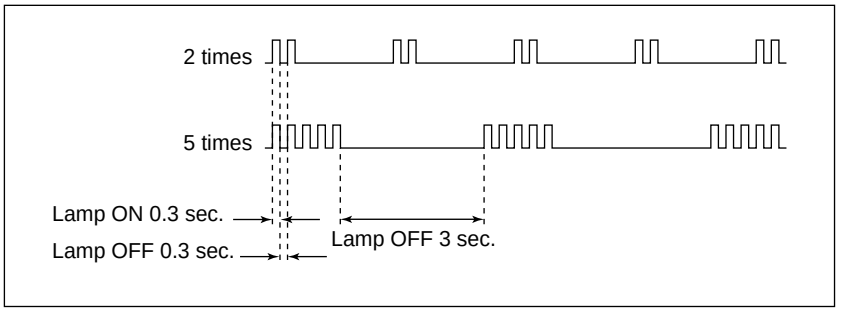
When an errors occurs, the STANDBY/TIMER lamp will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the lamp will identify the first of the problem areas.

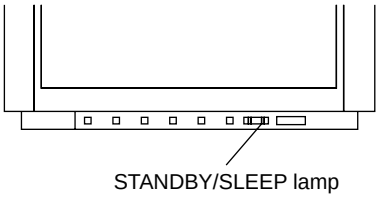
Result for all of the following diagnostic items are displayed on screen. No error has occured if the screen displays a "0".

Diagnostic Item Description	No. of times STANDBY/TIMER lamp flashes	Self-diagnostic display/Diagnostic result	Probable Cause Location	Detected Symptoms
• Power does not turn on	Does not light	—	• Power cord is not plugged in. • Fuse is burned out F4601 (F)	• Power does not come on. • No power is supplied to the TV. • AC power supply is faulty.
• +B overcurrent (OCP) or overvoltage (OVP) • Vertical deflection stopped • Horizontal deflection overdrive	2 times	002:000 or 002:001~255 003:001~255 004:001~255 at the same time	• H.OUT Q511 is shorted. (A board) • IC701 is shorted. (C board) • -13V is not supplied. (A board) • IC 503 faulty (A board)	• Power does not come on. • Load on power line is shorted. • Has entered standby state after horizontal raster. • Vertical deflection pulse is stopped. • Power line is shorted or power supply is stopped.
• White balance failure (no PICTURE)	5 times	005:000 or 005:001~225	• G2 is improperly adjusted. (Note 2) • CRT problem. • Video OUT IC701 is faulty. (C board) • IC301 is faulty. (A board) • No connection A board to C board.	• No raster is generated. • CRT cathode current detection reference pulse output is small.
• Micro reset	—	101:00 or 101:001~225	• Discharge CRT (C Board) • Static discharge • External noise	• Power is shut down shortly, after this return back to normal. • Detect Micro latch up.

Note 1: If a + B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously.
The symptom that is diagnosed first by the microcontroller is displayed on the screen.
Note 2: Refer to screen (G2) Adjustment in section 3-4 of this manual.

2. DISPLAY OF STANDBY/TIMER LIGHT FLASH COUNT





Diagnostic Item	Flash Count*
+B overcurrent/overvoltage Vertical deflection stopped	2 times
White balance failure	5 times

* One flash count is not used for self-diagnostic.

3. STOPPING THE STANDBY/TIMER FLASH

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER lamp from flashing.

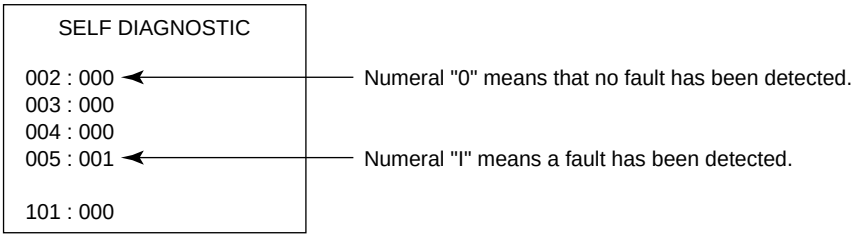
4. SELF-DIAGNOSTIC SCREEN DISPLAY

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurances of failure for confirmation on the screen:

[To Bring Up Screen Test]
In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:

Screen display ➡ channel 5 ➡ Sound volume - ➡ Power ON
⇧
Note that this differs from entering the service mode (mode volume +).

Self-Diagnosis screen display


SELF DIAGNOSTIC
002 : 000
003 : 000
004 : 000
005 : 001
101 : 000
Numeral "0" means that no fault has been detected.
Numeral "I" means a fault has been detected.

5. HANDLING OF SELF-DIAGNOSTIC SCREEN DISPLAY

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to “0”.

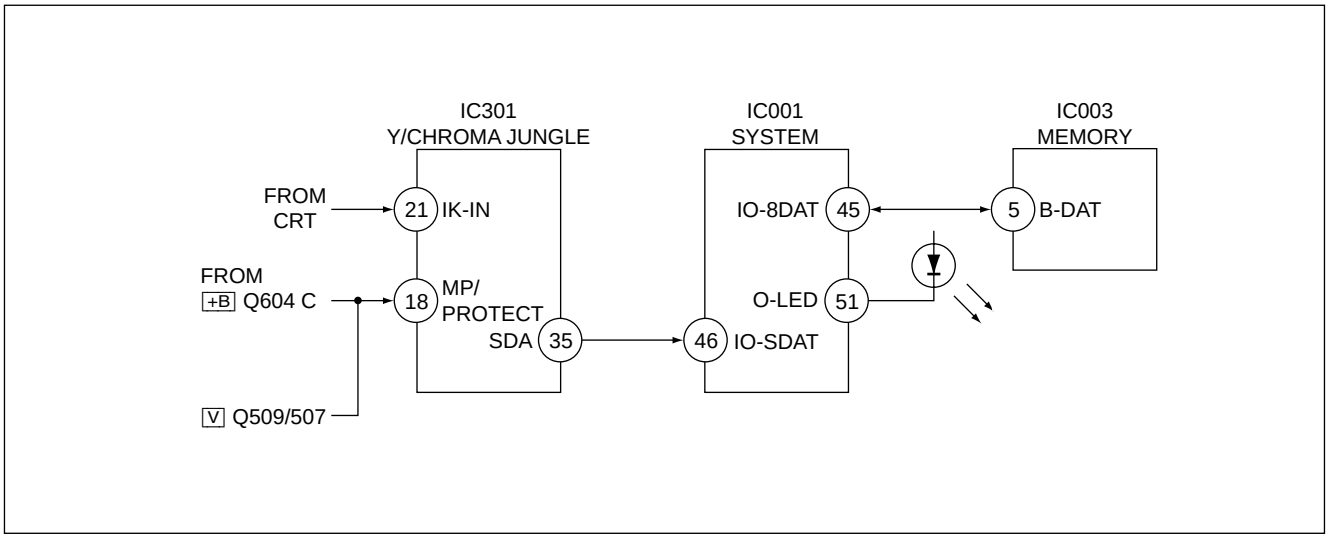
Unless the result display is cleared to “0”, the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

[Clearing the result display]
To clear the result display to “0”, press buttons on the remote commander sequentially as shown below when the diagnostic screen is being displayed.

Channel 8 ➡ 0

[Quitting Self-diagnostic screen]
To quit the entire self-diagnostic screen, turn off the power switch on the remote commander or the main unit.

6. SELF-DIAGNOSTIC CIRCUIT



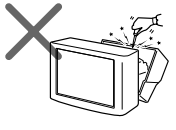
+B overcurrent (OCP)	Occurs when an overcurrent on the +B(135) line is detected by Q604. If Q604 go to ON and the voltage to pin 18 of IC301 should go down when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.
Vertical deflection stopped	Occurs when an absence of the vertical deflection pulse is detected by Q509 and IC001 shut down the power supply.
Vertical deflection overcurrent	Occurs when an overcurrent on V drive line is detected by Q507. Power supply will be shut down when detect this by IC001.
White balance failure	If the RGB levels* do not balance or become low level within 5 seconds, this error will be detected by IC301. TV will stay on, but there will be no picture. * (Refers to the RGB levels of the AKB detection Ref pulse that detects IK.)

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

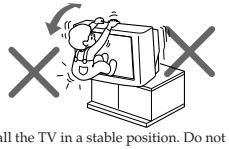
SECTION 1
GENERAL

WARNING

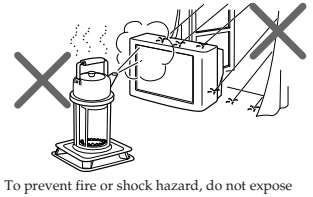
- Dangerously high voltages are present inside the TV.
- Operate the TV only between 110 – 240 V AC.



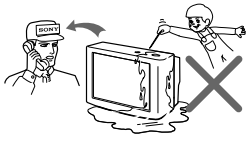
Do not open the cabinet and the rear cover of the TV. Refer servicing to qualified personnel.



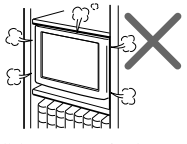
Install the TV in a stable position. Do not allow children to climb onto it.



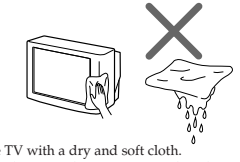
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



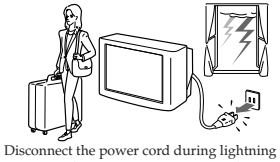
Do not install the TV in a confined space, such as a bookcase or built-in cabinet.
Do not block the ventilation openings of the TV.



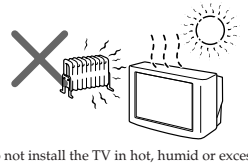
Clean the TV with a dry and soft cloth.
Do not use benzine, thinner, or any other chemicals to clean the TV. Do not scratch the picture tube.

Do not pull the power cord to disconnect the TV. Pull it out by the plug.

Do not plug in too many appliances to the same power socket. Do not damage the power cord.



Disconnect the power cord during lightning storms or if you are not going to use the TV for several days.



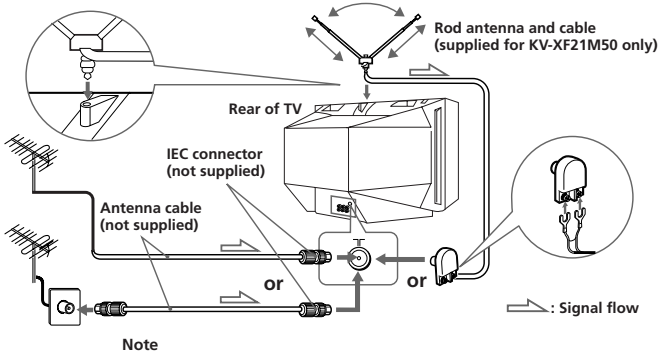
Do not install the TV in hot, humid or excessively dusty places.

Getting Started

Step 1

Connect the antenna (KV-XF21M30/XF21M50)

If you wish to connect a VCR, see the "Connecting a VCR" diagram below.

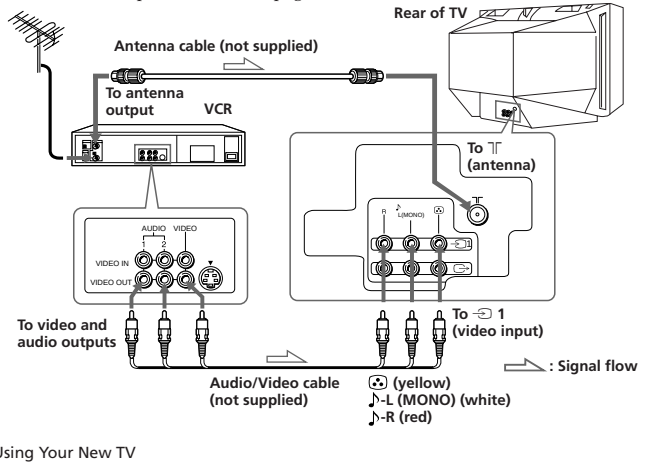


Note

- You are advised to use an outdoor antenna for better reception.

Connecting a VCR

To watch the video, press ⊃ ⊕ (see page 13).

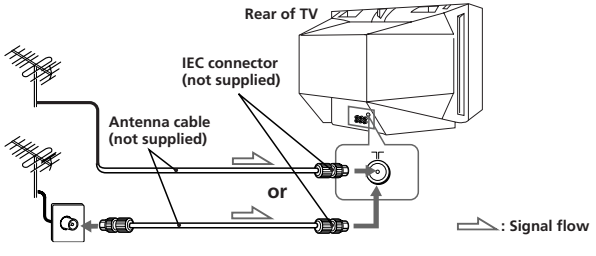


Getting Started

Step 1

Connect the antenna (KV-XF21M65)

If you wish to connect a VCR, see the "Connecting a VCR" diagram below.



Notes

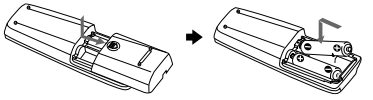
- If you connect a monaural VCR, connect the yellow plug to (the yellow jack) and the black plug to ♪-L (MONO) (the white jack).
- If you connect a VCR to the (antenna) terminal, preset the signal output from the VCR to the program number 0 on the TV.
- When no signal is input to the connected video equipment, the TV screen becomes blue.

CAUTION

Do not connect the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.

Step 2

Insert the batteries into the remote

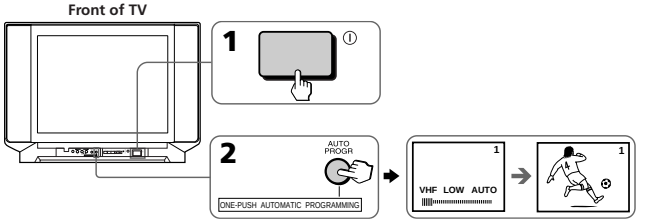


Note

- Do not use old batteries nor use different types of batteries together.

Step 3

Preset the channels automatically



Tips

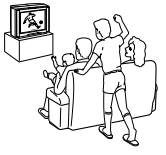
- If you want to stop automatic channel presetting, press SELECT twice.
- If your TV has preset an unwanted channel or cannot preset a particular channel, then preset your TV manually (see page 10).

Note (KV-XF21M50 only)

- During automatic channel presetting, your TV screen will indicate "B/G" , "I", "D/K" or "M" for the TV system depending on the program number 1 setting.

Now You Are Ready. . .

To watch your TV, see page 12.

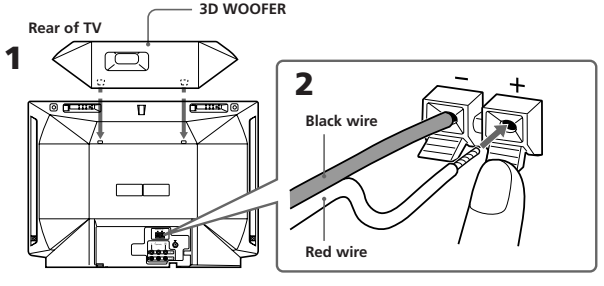


KV-XF21M30/XF21M50/XF51M65
RM-952

Connecting the 3D WOOFER

(KV-XF51M65 only)

You can enjoy high quality sound by connecting the 3D WOOFER.



1 Attach the 3D WOOFER into the footholds on the top of your TV.

2 Connect the wires to the 3D WOOFER (8Ω) terminals at the rear of your TV. The red wire should be connected to the ⊕ red terminal and the black wire to the ⊖ black terminal.

Notes

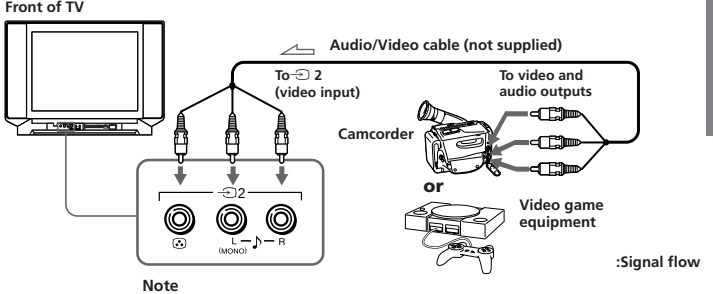
- Connect only the supplied 3D WOOFER; otherwise your TV may malfunction.
- Unplug your TV from the wall outlet when connecting the 3D WOOFER.
- To prevent a malfunction caused by a short circuit of the terminals, make sure that none of the 3D WOOFER wire strands stick out, making contact with the neighbouring speaker terminal.

Connecting optional components

You can connect optional audio/video components, such as a VCR, multi disc player, camcorder, video game or stereo system.

To watch the picture of the connected equipment, press ⇨ (see page 13).

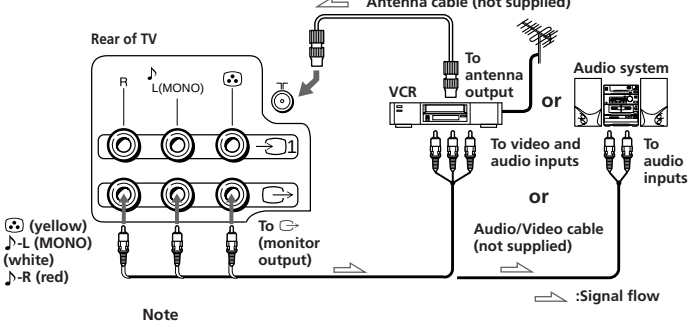
Connecting a camcorder/video game equipment using the ⇨ (video input) jacks



Note

- You can also connect video equipment to the ⇨ 1 (video input) jacks at the rear of your TV.

Connecting audio/video equipment using the ⇨ (monitor output) jacks



Note

- When connecting a monaural VCR, connect the yellow plug to (the yellow jack) and the black plug to ♪ -L (MONO) (the white jack).

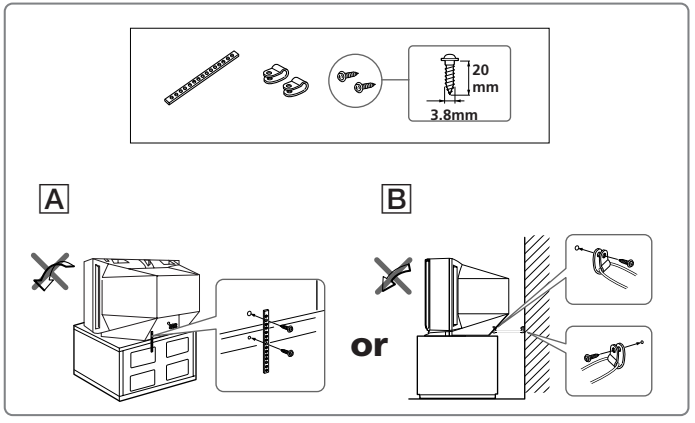
Securing the TV

To prevent the TV from falling, secure the TV using one of the following methods:

A With the supplied screws, attach the band to the TV stand and to the rear of the TV using the provided hole.

or

B Put the cord or chain through the clamps to secure the TV against a wall or pillar.

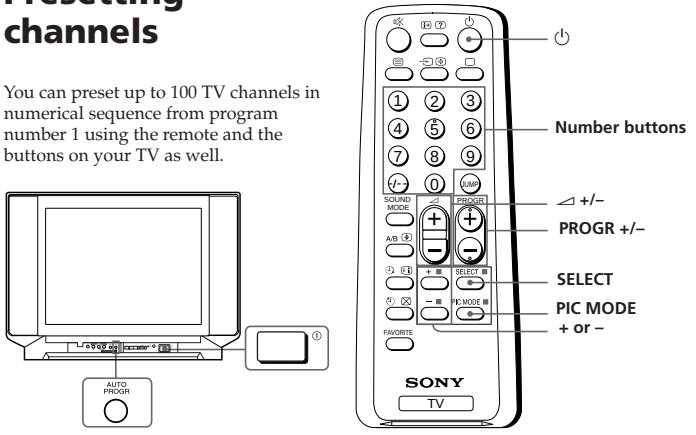


Note

- Use only the supplied screws. Use of other screws may damage the TV.

Presetting channels

You can preset up to 100 TV channels in numerical sequence from program number 1 using the remote and the buttons on your TV as well.



Presetting channels automatically

1 Press ⏻ to turn on the TV.

2 Press AUTO PROGR.

Note (KV-XF21M50 only)

- During automatic channel presetting, your TV screen will indicate "B/G" , "I", "D/K" or "M" for the TV system depending on the program number 1 setting.

To preset channels automatically from a specified program number

(1) Press SELECT until "AUTO PROGRAM" appears.

(2) Press + or –.
The on-screen display will start flashing.

(3) Press PROGR +/– or the number buttons until the desired program number appears.

(4) Press + or –.

continued

KV-XF21M30/XF21M50/XF51M65
RM-952

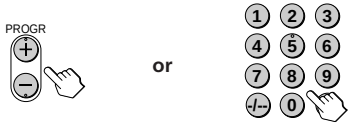
Presetting channels (continued)

Presetting channels manually

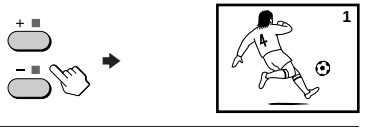
1 Press SELECT until "MANUAL PROGRAM" appears.

2 Press + or –.

3 Press PROGR +/– or the number buttons until the desired program number appears.



4 Press + or – until the desired channel picture appears.

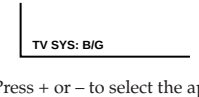


5 Press SELECT.

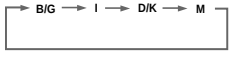
To change the TV system setting

If the picture or sound is abnormal when receiving programs through the ⅂ (antenna) terminal

(1) Press SELECT until "TV SYS" appears.



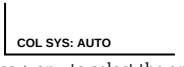
(2) Press + or – to select the appropriate TV system until the picture or sound quality is optimal.



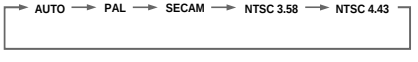
To change the color system setting

If the color is abnormal when receiving programs through the ⅂ (antenna) terminal or the (video input) jack

(1) Press SELECT until "COL SYS" appears.



(2) Press + or – to select the appropriate color system until the color is optimal.



Tip

- Normally set "COL SYS" to "AUTO".

Skipping program numbers

1 Press PROGR +/– or the number buttons until the unused or unwanted program number appears.

2 Press SELECT until "MANUAL PROGRAM" appears.

3 Press + or –.

4 Press PIC MODE.

5 Press SELECT.

To preset the skipped program number again

Preset the channel automatically or manually.

Tip

- You can also use SELECT and +/– on the TV to preset channels and skip program numbers.

To use the fine tuning (FINE) function

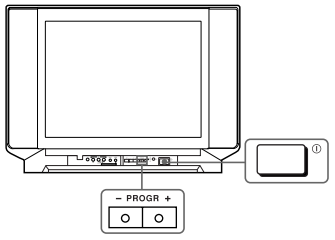
The fine tuning (FINE) function may help to reduce the following problems: incomplete Teletext display (KV-XF51M65 only), double images and lines moving across the TV screen.

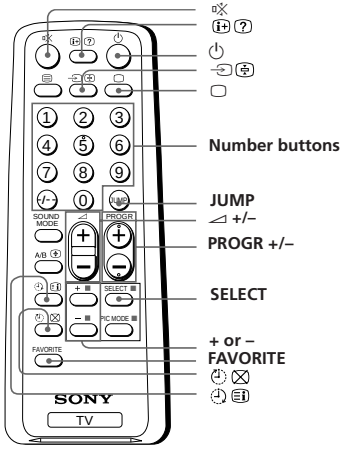
You can use the fine tuning function as below:

(1) Select the program number you want to adjust.
(2) Press SELECT until "MANUAL PROGRAM" appears on the screen.
(3) Press + or – on the remote control once.
(4) Press to display "FINE" on the screen.
(5) Press + or – continuously until the above problems are minimized.
The + or – icon on the screen flashes while tuning.
(6) Press SELECT to return to normal screen.

Watching the TV

This section explains functions used while watching the TV. Most operations can be done using the remote.



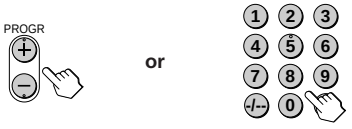


1 Press ⏻ to turn on the TV.

When the TV is in the standby mode (the ⏻ indicator on the TV is lit red), press ⏻ on the remote or PROGR +/– on the TV.

2 Press PROGR +/– or the number buttons to select the TV program.

For double digit numbers, press -/--, then the number (e.g., for 25, press -/--, then 2 and 5).



3 Press +/– to adjust the volume.

Additional tasks

To	Do this
Turn off temporarily	Press ⏻. The ⏻ indicator on the TV lights up red.
Turn off completely	Press ⏻ on the TV.
Mute the sound	Press 🔇.
Watch the video input (VCR, camcorder, etc.)	Press INPUT to select "VIDEO 1" or "VIDEO 2". To return to the TV program, press 🖵.
Jump back to the previous channel	Press JUMP.
Display the on-screen information*	Press DISPLAY.
Adjust the volume of each TV program automatically	Press SELECT repeatedly until "INTELLIGENT VOL" appears, then press + or – to select "ON". To cancel, select "OFF".
Adjust the picture position when it is not aligned to the TV screen	Press SELECT repeatedly until "PIC ROTATION" appears, then press + or – to adjust the alignment of the picture position PIC ROTATION The ↴ or ↰ icon on the screen flashes while adjusting.

* The picture, sound, and either the program number or video mode are displayed. The on-screen display for the picture and sound information disappears after about 3 seconds.

Changing the on-screen display language

1 Press SELECT until "LANGUAGE / 语言: ENGLISH" appears on the screen.

2 Press + or – to select " 中文 ".

Tip

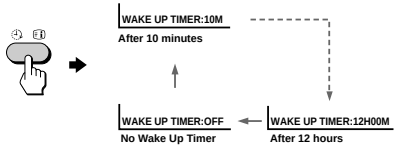
- You can also use SELECT and +/– on the TV to select the on-screen display language.

continued

KV-XF21M30/XF21M50/XF51M65
RM-952

Setting the Wake Up timer

1 Press ◴ ⊟ until the desired period of time appears.



2 Select the TV program or video mode you want to display when you wake up.

3 Press ⏻ or set the Sleep timer if you want the TV to turn off automatically.

The ◴ indicator on the TV lights up orange.

To cancel the Wake Up timer

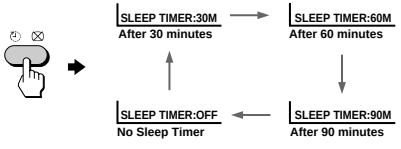
Press ◴ ⊟ until "WAKE UP TIMER: OFF" appears or turn off the TV's main power.

Notes

- The Wake Up timer starts immediately after the on-screen display disappears.
- If no buttons or controls are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into the standby mode. To continue watching the TV, press any button or control on the TV or the remote.

Setting the Sleep timer

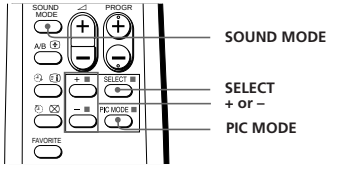
Press ◴ ⊠ until the desired period of time appears.



To cancel the Sleep timer

Press ◴ ⊠ until "SLEEP TIMER: OFF" appears or turn the TV off.

Customizing the picture and sound



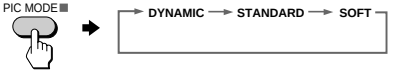
You can customize the picture and sound by selecting the picture and sound modes or by adjusting its settings.

You can change the sound effect by selecting the surround mode.

Selecting the picture and sound modes

To select the picture mode

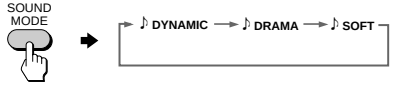
Press PIC MODE repeatedly until you get the desired picture mode.



Select	To
DYNAMIC	receive high contrast pictures.
STANDARD	receive normal contrast pictures.
SOFT	receive mild pictures.

To select the sound mode

Press SOUND MODE repeatedly until you get the desired sound mode.



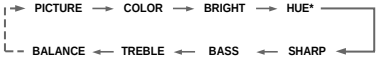
Select	To
DYNAMIC	listen to dynamic and clear sound that emphasizes the low and high sound.
DRAMA	listen to sound that emphasizes vocals and background music.
SOFT	receive soft sound.

continued

Adjusting the picture and sound settings

1 Press SELECT until the desired setting appears.

Each time you press SELECT, the setting item will change as follows:



2 Press + or – to adjust the item.

3 To adjust other items, repeat steps 1 to 2.

* "HUE" can be adjusted for the NTSC system only.

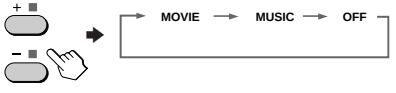
Notes

- When you select a picture or sound mode, the adjusted settings will be reset according to the selected mode.
- You can also use SELECT and ◿ +/– on the TV to adjust the picture and sound settings.

Selecting the surround mode

1 Press SELECT repeatedly until "SURROUND" appears.

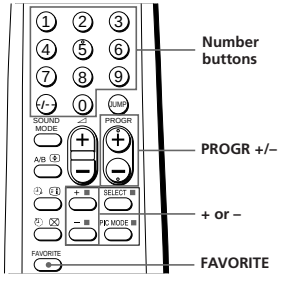
2 Press + or – to select the desired surround sound.



Select	To
MOVIE	listen to sound that spreads out over a large area, giving the feeling of being at a movie theatre.
MUSIC	listen to the sound that gives the feeling of being at a live concert.
OFF	turn off the surround sound.

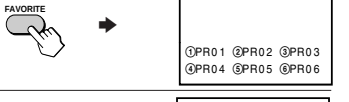
Viewing your favorite channels

You can display six of your favorite channels for quick and easy selection. You can change the favorite channel setting as well.



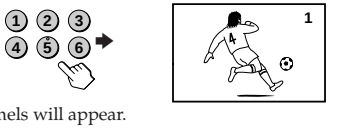
Selecting a favorite channel

1 Press FAVORITE.



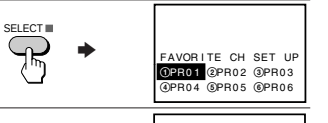
2 Press the number button from 1 to 6 to select the desired channel.

When you use the FAVORITE CH feature for the first time, six preset channels will appear.

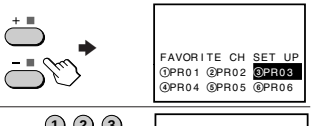


Changing the favorite channel setting

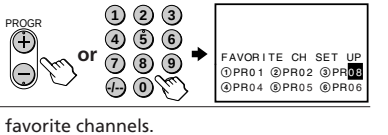
1 Press SELECT until "FAVORITE CH SET UP" appears.



2 Press + or – to select the favorite channel you want to change (e.g. ③ PR03).



3 Press PROGR +/–, or number buttons to change the program number.



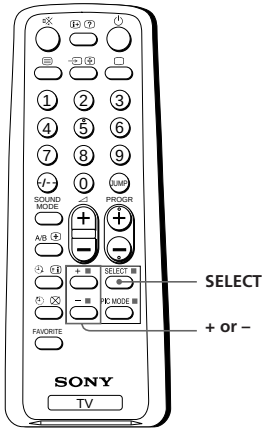
4 Repeat steps 2 and 3 to set other favorite channels.

5 Press SELECT.

KV-XF21M30/XF21M50/XF51M65
RM-952

Blocking the channels (CHILD LOCK)

You can prevent a child from watching certain programs by using the buttons on the remote control.



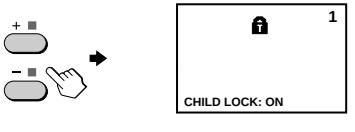
1 Select the TV program you want to lock.

2 Press SELECT until "CHILD LOCK" appears on the screen.

3 Press + or – to select "ON".

The 🔒 symbol appears on the screen.

To unlock the channel, press + or – to select "OFF". The 🔒 symbol disappears from the screen.



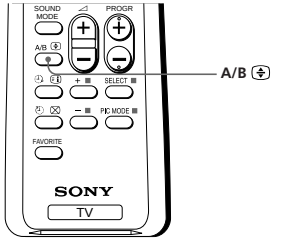
Note

- If you preset a locked channel, that particular channel will be unlocked automatically.

Selecting a stereo or bilingual program

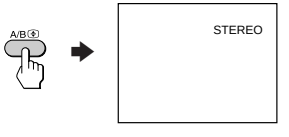
(KV-XF21M30/XF51M65 only)

You can enjoy stereo sound or bilingual programs of NICAM and A2 (German) stereo systems.



Press A/B repeatedly until you receive the sound you want.

The on-screen display changes to show the selected sound and the indicator on the TV lights up red.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	NICAM (Stereo sound) → MONO (Regular sound)
NICAM bilingual	NICAM MAIN (Main sound) → NICAM SUB (Sub sound) → MONO (Regular sound)
NICAM monaural	NICAM MAIN (Main sound) → MONO (Regular sound)

continued

Selecting a stereo or bilingual program (continued)

When receiving an A2 (German) program

Broadcasting	On-screen display (Selected sound)
A2 (German) stereo	MONO (Regular sound) → STEREO (Stereo sound)
A2 (German) bilingual	MAIN (Main sound) → SUB (Sub sound)

Notes

- If the signal is very weak, the sound becomes monaural automatically.
- If the stereo sound is noisy when receiving a NICAM program, select "MONO". The sound becomes monaural, but the noise is reduced.

Receiving area for NICAM and A2 (German) programs (KV-XF21M30)

System	Receiving area
NICAM	Hong Kong, Singapore, New Zealand, Malaysia, Thailand, etc.
A2 (German)	Australia, Malaysia, Thailand, etc.

- Before receiving a NICAM stereo program in China, please check the NICAM broadcast condition at your area. When receiving a NICAM stereo program, the receiving conditions might vary depending on area. In addition, different strength of the NICAM broadcast signal might affect the receiving quality.

If the sound is distorted or noisy when receiving a monaural program through the ⅂ (antenna) terminal

Press A/B ⊕ repeatedly until "MONO" appears on the screen.

To cancel the monaural sound setting, press A/B ⊕ again until "AUTO" appears on the screen.

MONO → AUTO

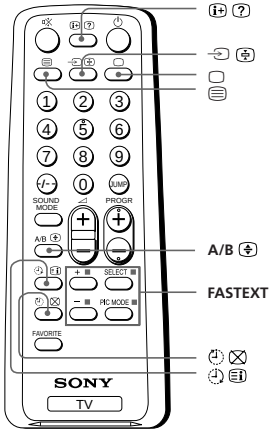
Notes

- The "MONO" or "AUTO" setting is memorized for each program position.
- You cannot receive stereo broadcast signal when the TV is in the "MONO" setting. Normally set the TV to "AUTO."

Viewing Teletext

(KV-XF51M65 only)

TV stations broadcast an information service called Teletext via some TV channels. Teletext allows you to receive various information, such as shares market or news.

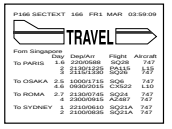


Displaying Teletext

1 Select a TV channel that carries the Teletext broadcast you want to watch.

2 Press ☰ to display the text.

A Teletext page (normally the index page) is displayed. If there is no Teletext broadcast, "100" is displayed at the top left corner of the screen.



To turn off Teletext

Press 🖵.

continued

Viewing Teletext (continued)

Additional Teletext tasks

To	Do this
display a Teletext page on the TV picture	Press ☰. Each time you press ☰, the screen changes as follows: Teletext → Teletext and TV → TV.
check the contents of a Teletext service	Press 🕘 ☰. An overview of the Teletext contents and page numbers appear on the screen.
select a Teletext page	Press the number buttons to enter the three-digit page number of the desired Teletext page.* If you make a mistake, reenter the correct page number. To access the next or previous page, press PROGR +/–.
hold a Teletext page (stop the page from scrolling)	Press → ⊕ to display the symbol "⊕" at the top left corner of the screen. To resume normal Teletext operation, press → ⊕ or ☰.
reveal concealed information (e.g., an answer to a quiz)	Press i ?. To conceal the information, press the button again.
enlarge the Teletext display	Press A/B ⇳. Each time you press A/B ⇳, the Teletext display changes as follows: Enlarge upper half → Enlarge lower half → Normal size.
wait for a Teletext page while watching a TV program	1 Enter the Teletext page number that you want to refer to, then press 🕘 ⊗. 2 When the page number is displayed, press ☰ to show the text.

* You can also select a Teletext page of any page number that appears in the colored column at the bottom of the screen using the corresponding color-coded button on the remote.

Using FASTEXT

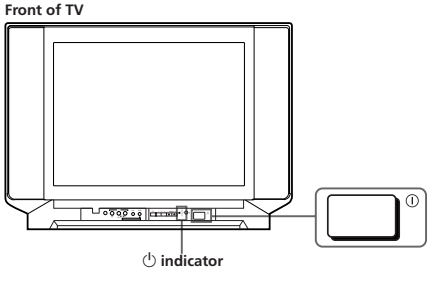
This feature allows you to quickly access a Teletext page that uses FASTEXT. When a FASTEXT program is broadcasted, the colored menus appear at the bottom of the screen. The colors of the menus correspond to the red, green, yellow, and blue color-coded buttons on the remote.

To access a FASTEXT menu

Press the color-coded button on the remote corresponding to the menu you want. The menu page appears on the screen after several seconds.

Self-diagnosis function

Your TV is equipped with a self-diagnosis function. If there is a problem with your TV, the ⏻ indicator flashes red. The number of times the ⏻ indicator flashes indicates the possible causes.



1 Check that the ⏻ indicator flashes red a number of times between 3-second intervals.

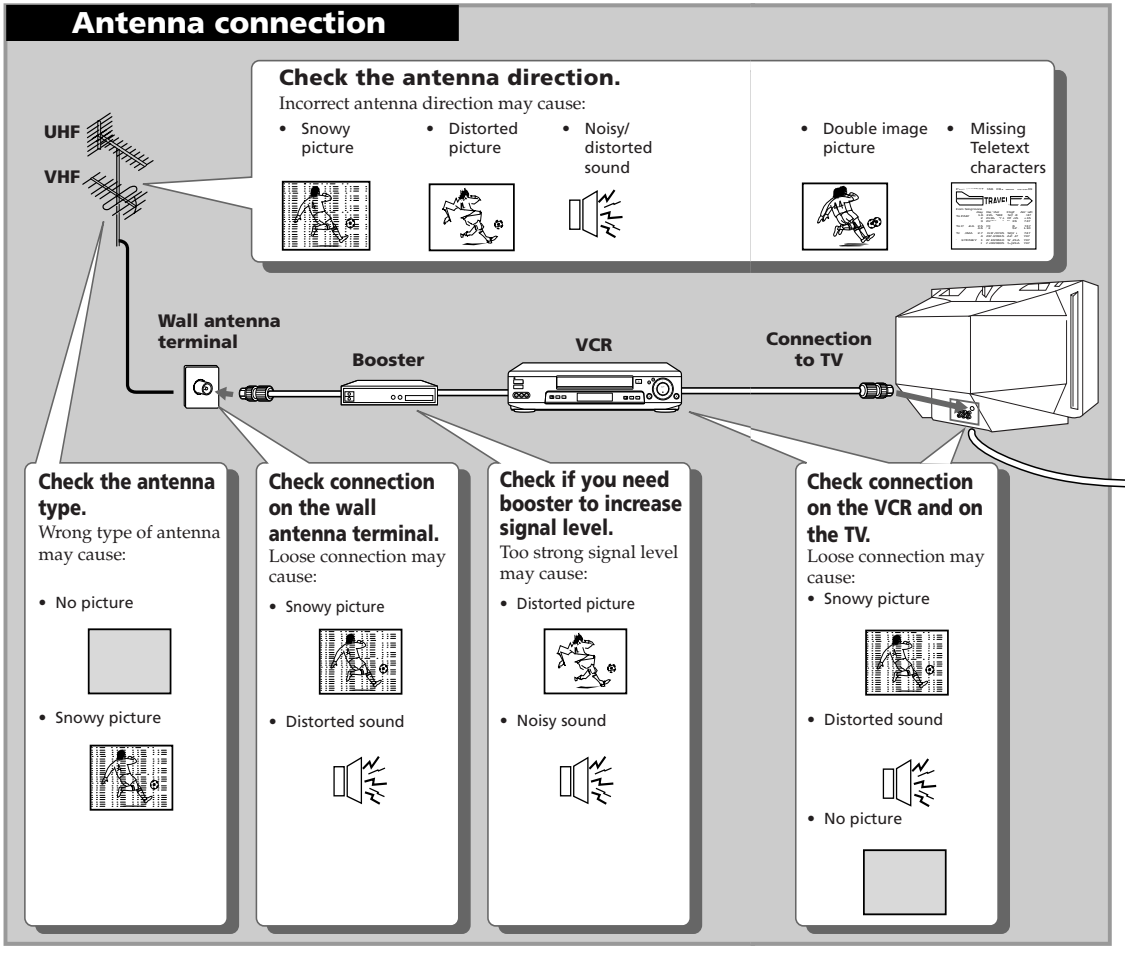
2 Count the number of times the ⏻ indicator flashes.

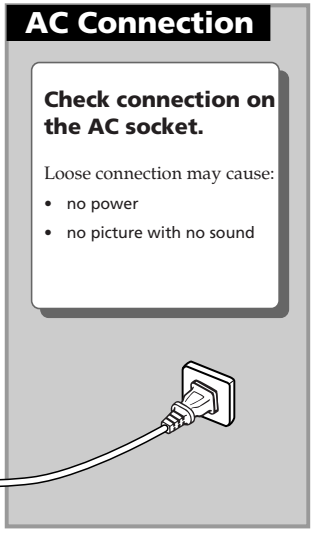
3 Press ⏻ (main power) to turn off your TV.

4 Inform your nearest Sony service center about the number of times the ⏻ indicator flashes.
Be sure to note the model name and serial number located on the rear of your TV.

Troubleshooting Shortcuts (KV-XF21M50)

For better viewing, please check the following connections.

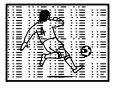
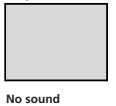


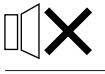


For more information, please see "Troubleshooting" on page 26, 27, 28 and 29. Or consult your dealer for guidance.

Troubleshooting

If you find any problem while viewing your TV, please check the following guide. If any problem persists, contact your Sony dealer .

Symptom	Solutions	Possible cause
Snowy picture  **Noisy sound**	• Check the antenna cable and connection on the TV, VCR and on the wall. (page 4)	• Connection is loose or the cable is damaged.
	• Press SELECT until "MANUAL PROGRAM" appears on the screen then preset the channel again. (page 10)	• Channel presetting is inappropriate or incomplete.
	• Check the antenna type (VHF/UHF). Contact a Sony dealer for advice.	• The antenna type is inappropriate.
	• Adjust the antenna direction. Contact a Sony dealer for advice.	• The antenna direction is inappropriate.
	• Try using a booster.	• Signal transmission is low.
Distorted picture **Noisy sound**	• Turn off or disconnect the booster if it is in use.	• Broadcast signals are too strong.
Good picture **Noisy sound**	• If the sound of all the channels are noisy, check the TV system (TV SYS) setting (page 10), then press AUTO PROGR to preset the channels again (page 9). • If the sound of some channels are noisy, select the channel, then select the appropriate TV system (TV SYS). (page 10)	• The TV system setting or channel presetting is inappropriate or incomplete.
No picture  **No sound**	• Check the power cord, antenna and the VCR connections.	• The power cord, antenna or VCR is not connected.
	• Press ⏻ (power). • Press ⏀ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	• The TV is not turned on.

Symptom	Solutions	Possible cause
Good picture **No sound** 	• Press + to increase the volume level.	• The volume level is too low.
	• Press 🔇 to cancel the muting.	• The sound is muted.
	• Press A/B ⇳ until a better sound is heard. (KV-XF21M30/XF51M65 only)	• Broadcast signal has a transmission problem.
Dotted lines or stripes	• Do not use a hair dryer or other equipment near the TV. • Adjust the antenna direction for minimum interference. Contact a Sony dealer for advice.	• There is local interference from cars, neon signs, hair dryers, power generators, etc.
Double images or "ghosts"	• Use a highly directional antenna. • Use the fine tuning (FINE) function. (page 11)	• Broadcast signals are reflected by nearby mountains or buildings.
	• Adjust the antenna direction. Contact a Sony dealer for advice.	• The antenna direction is inapproprite.
	• Turn off or disconnect the booster if it is in use.	• Use of a booster is inappropriate.
No color	• Press SELECT until "COLOR" appears on the screen, then press + or – to adjust the color level. (page 16)	• The color level setting is too low.
	• Press SELECT until "COL SYS " appears on the screen, then check the color system setting (usually set this to "AUTO"). (page 11).	• The color system setting is inappropriate.
	• Adjust the antenna direction. Contact a Sony dealer for advice.	• The antenna direction is inapproriate.
Abnormal color patches	• Keep external speakers or other electrical equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏀ (main power) on the TV to turn off the TV for about five minutes, then turn it on again.	• There are magnetic effects from external speakers or other electrical equipment that may affect the TV. • The direction of the earth's magnetic field may affect the TV.
TV cannot receive stereo broadcast signal (KV-XF21M30/XF51M65 only)	• Press A/B ⇳ until "AUTO" appears on the screen	• The stereo reception setting is inappropriate.

continued

Troubleshooting (continued)

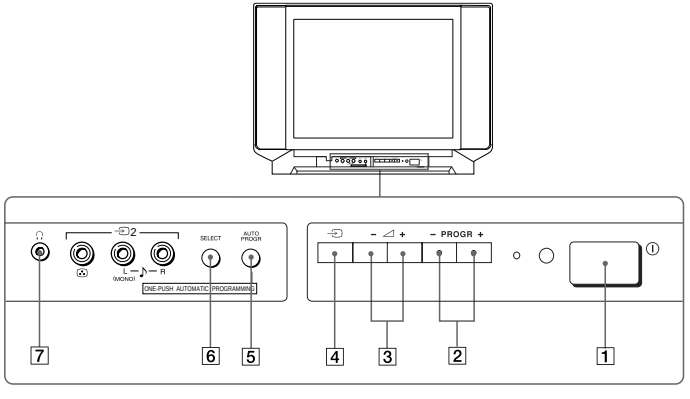
Symptom	Solutions	Possible cause
Stereo broadcast sound switches on and off or is distorted. **or** **The sound switches between monaural and stereo frequently. (KV-XF21M30/XF51M65 only)**	• Check the antenna cable and connection on the TV, VCR and on the wall. (page 4)	• Connection is loose or the cable is damaged.
	• Adjust the antenna direction. Contact a Sony dealer for advice.	• The antenna direction is inappropriate.
	• Press A/B ⇳ until a better sound is heard.	• Broadcast signal has a transmission problem.
"100" appears on the top of the screen and there is no Teletext display. (KV-XF51M65 only)	—	• The channel carries no Teletext broadcast.
Teletext display is incomplete (snowy picture or double images). (KV-XF51M65 only)	• Check the antenna cable and connection on the TV, VCR, and at the wall. (page 4)	• Connection is loose or the cable is damaged.
	• Adjust the antenna direction. Contact a Sony dealer for advice.	• The antenna direction is inappropriate.
Picture slant	• Try using a booster. • Use the fine tuning (FINE) function. (page 11)	• Signal transmission is too low.
	• Press SELECT until "PIC ROTATION" appears on the screen, then press + or – to align the picture to the TV screen. (page 12)	• The terrestrial magnetism affects your TV set.
Lines moving across the TV screen.	• Use the fine tuning (FINE) function. (page 11)	• There is interference from external sources, e.g., heavy machineries, nearby broadcast station.

Symptom	Solutions	Possible cause
The ⏻ indicator on your TV flashes red a number of times between 3-second intervals.	• Contact your nearest Sony service center. (page 23)	• Your TV may need service.
TV cabinet creaks.	—	• Changes in room temperature sometimes make the TV cabinet expand or contract, making a noise. This does not indicate a malfunction.
A "boom" sound is heard when the TV is turned on.	—	• The TV's demagnetizing function is working. This does not indicate a malfunction.

Identifying parts and controls

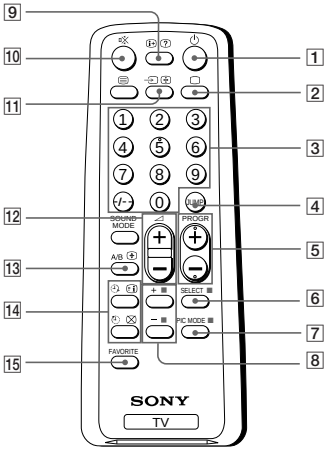
Refer to the pages indicated in parentheses ( ) for details.

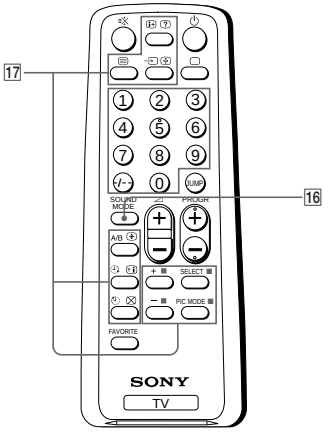
Front panel



1 ⏻ (main power) button (12)
2 PROGR +/– (program) buttons (12)
3 +/– (volume) buttons (12)
4 (TV/video) button (13)
5 AUTO PROGR (program) button (5)
6 SELECT button (10)
7 (headphone) jack

Remote Control





1 ⏻ (power) button (12)
2 (TV) button (13)
3 Number buttons (12)
4 JUMP button (13)
5 PROGR +/– buttons (12)
6 SELECT button (10)
7 PIC MODE button (15)
8 +/– buttons (10)
9 (display) button (13)
10 (muting) button (13)
11 (video) button (13)
12 +/– (volume) buttons (12)
13 A/B button
(KV-XF21M30/XF51M65 only)
14 Timer setting buttons (14)
(wake up timer)
(sleep timer)
15 FAVORITE button (17)

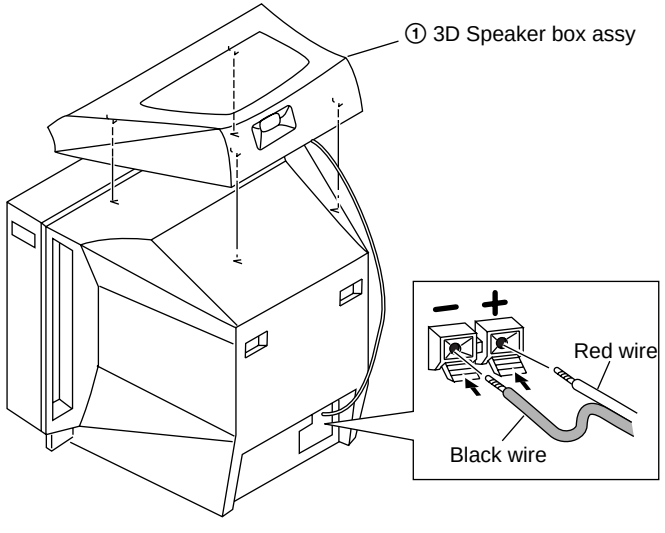
16 SOUND MODE button (15)
17 Teletext operation buttons
(KV-XF51M65 only)
(text) (enlarge)
(reveal) (hold)
(index) (text clear)
■ (FASTEXT: red, green, yellow, blue)

Names/symbols of buttons on the remote are indicated in different colors to represent the available functions.

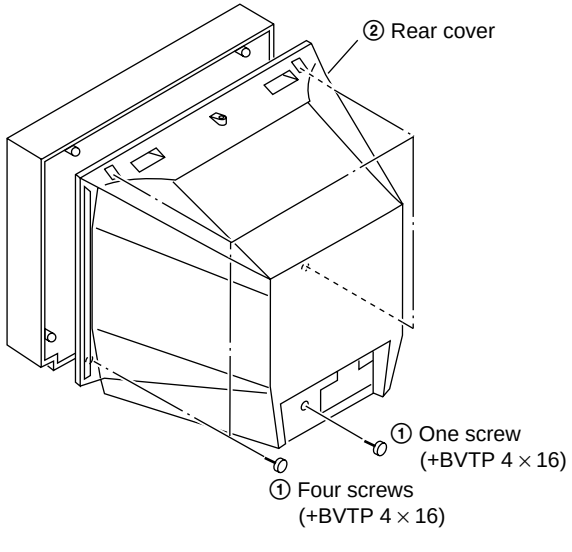
Label color	Button function
White	For general TV operations
Green	For Teletext operations

SECTION 2
DISASSEMBLY

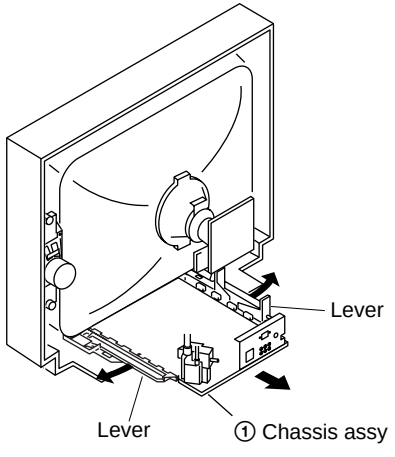
2-1. 3D SPEAKER BOX REMOVAL (KV-XF51M65 ONLY)



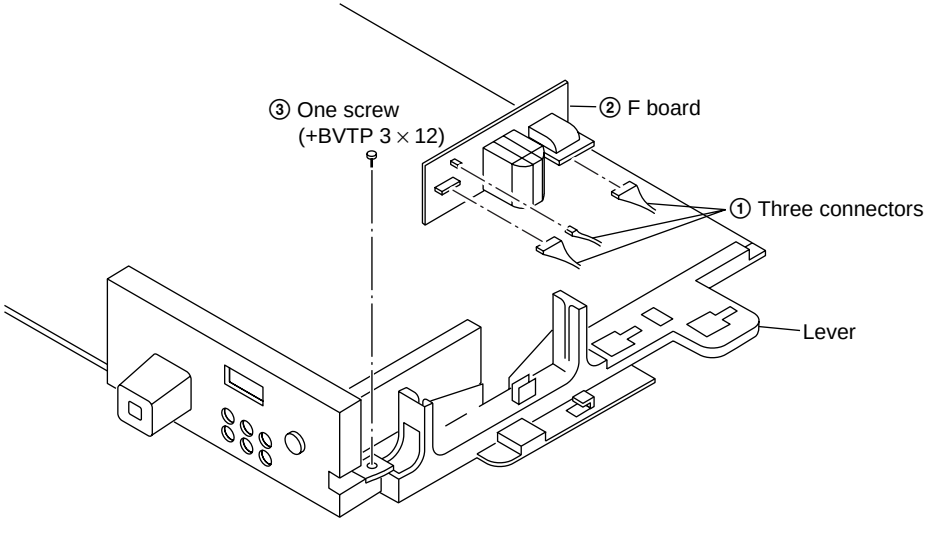
2-2. REAR COVER REMOVAL



2-3. CHASSIS ASSY REMOVAL

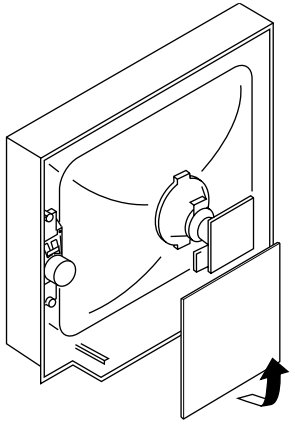


2-4. F BRACKET REMOVAL



2-5. SERVICE POSITION

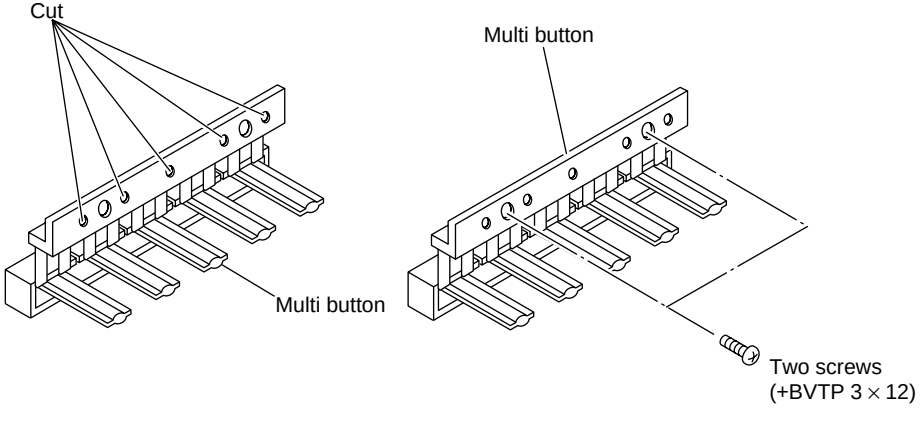
(Note: Remove F Bracket first.)



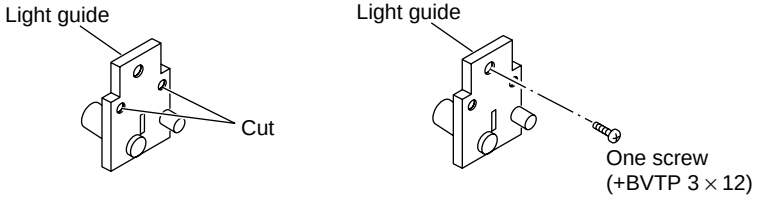
2-6. REPLACEMENT OF PARTS

For replacement of the Multi Button and Light Guide, cut the welded portions from them, exchange with the new parts, and fix them with screws (+BVTP) respectively.

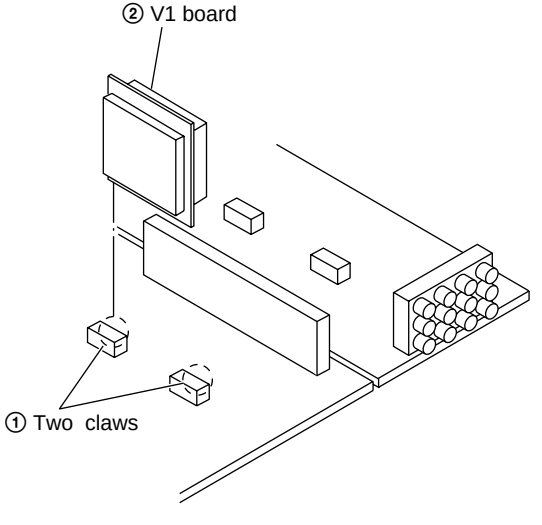
2-6-1. REPLACEMENT OF MULTI BUTTON



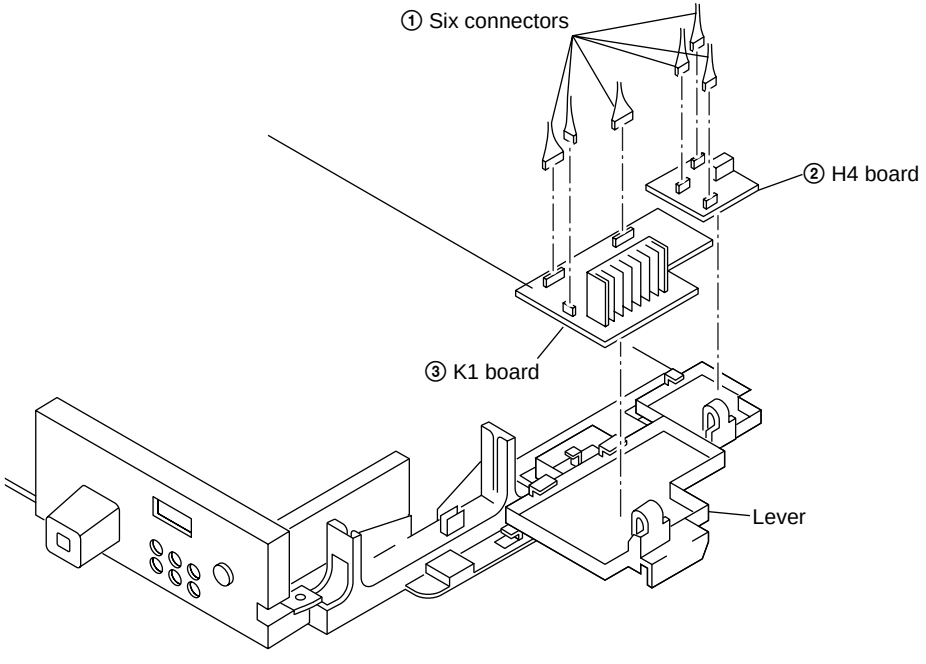
2-6-2. REPLACEMENT OF LIGHT GUIDE



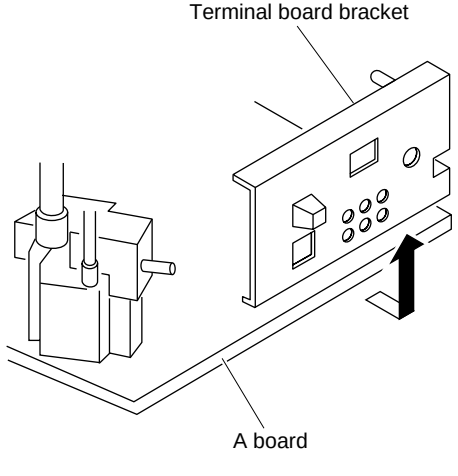
2-7. V1 BOARD REMOVAL (KV-XF51M65 only)



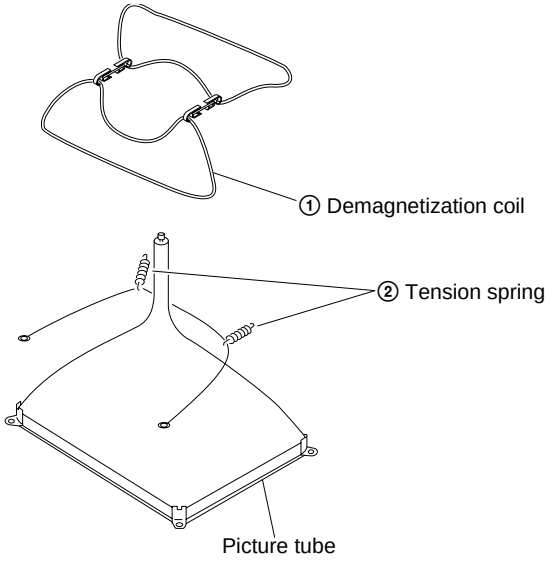
2-8. H4 AND K1 BOARD REMOVAL (KV-XF51M65 only)



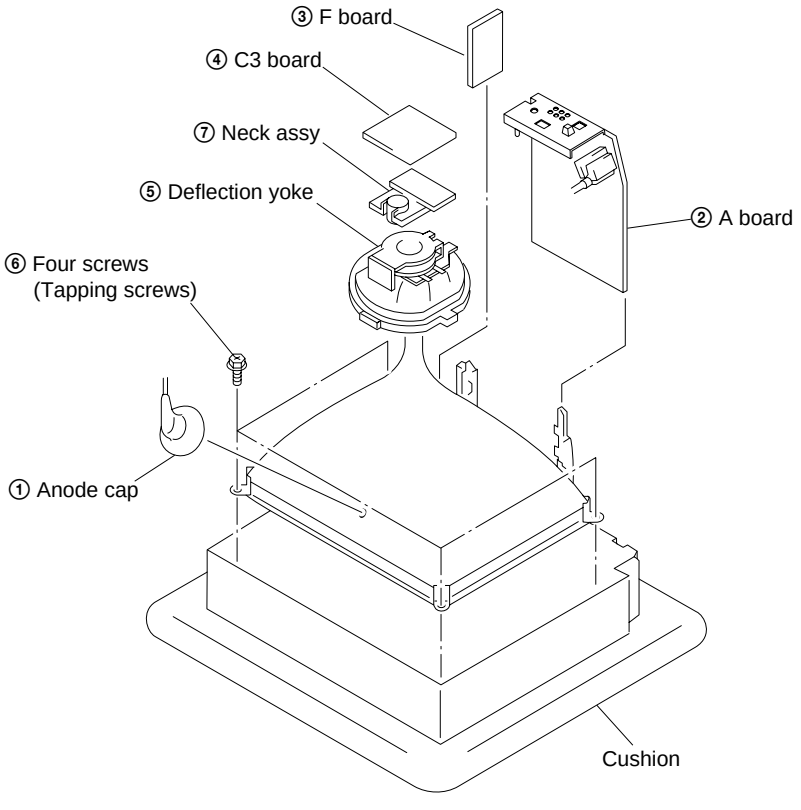
2-9. TERMINAL BRACKET REMOVAL



2-10. DEGAUSS COIL REMOVAL



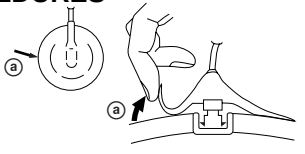
2-11. PICTURE TUBE REMOVAL



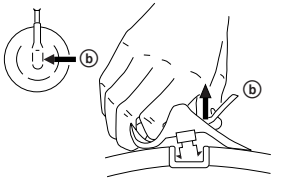
•REMOVAL OF ANODE-CAP

NOTE : After removing the anode, short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT.

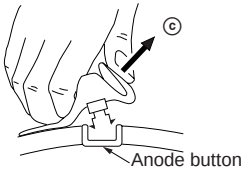
•REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



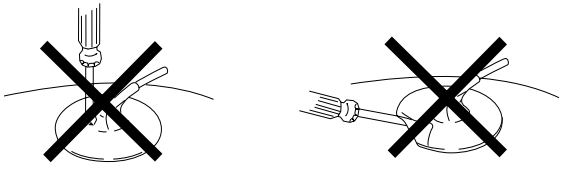
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ.

• HOW TO HANDLE AN ANODE-CAP

① Do not damage the surface of anode-caps with sharp shaped objects.
② Do not press the rubber too hard so as not to damage the inside of anode-cap. A metal fitting called the shatter-hook terminal is built into the rubber.
③ Do not turn the foot of rubber over too hard. The shatter-hook terminal will stick out or damage the rubber.



SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows unless otherwise noted:
PICTURE control ..... normal
BRIGHTNESS control ..... normal

Perform the adjustments in the following order :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser
3. Oscilloscope

Preparation :

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input a white signal with the pattern generator.
   Contrast, Brightness } normal
2. Position neck assy as shown in Fig3-2.
3. Set the pattern generator raster signal to a green raster.
4. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side.
   (See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that the entire screen is green. (See Figure 3-1.)
6. Switch the raster signal to blue, then to red and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws and DY spacers.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
   (See Figure 3-4.)

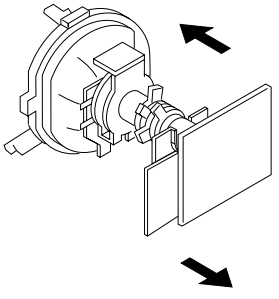
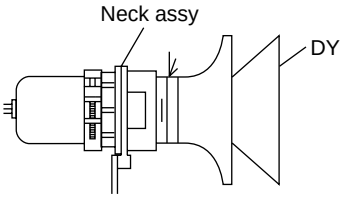


Fig. 3-1



Note:
Neck Assy is exactly behind DY (no gap between Neck Assy and DY)

Fig. 3-2

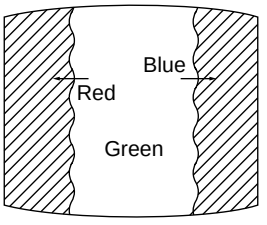


Fig. 3-3

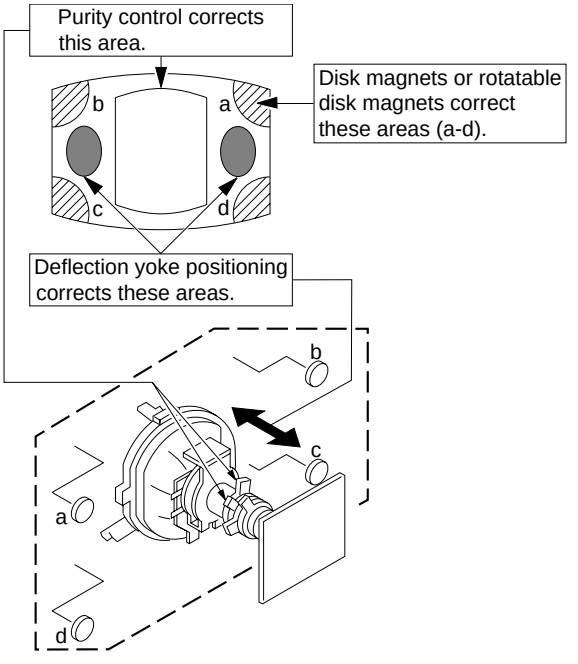


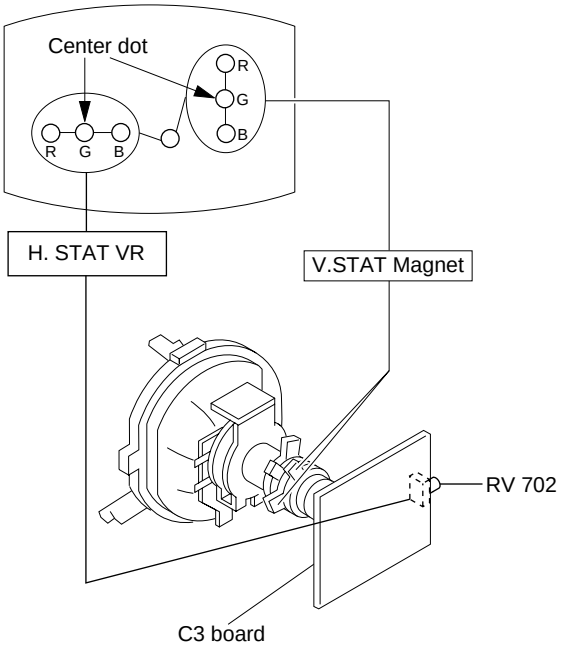
Fig. 3-4

3-2. CONVERGENCE

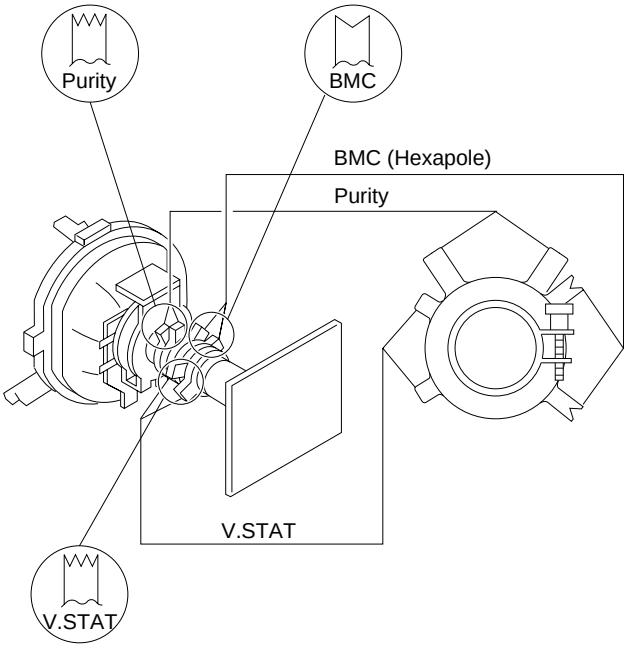
Preparation :

- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

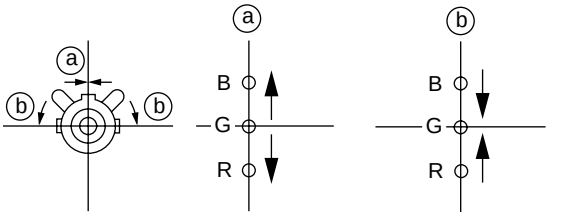
(1) Horizontal and Vertical Static Convergence



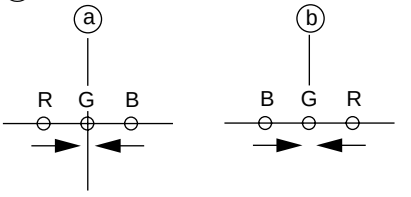
(Moving vertically), adjust the V.STAT magnet so that the red, green and blue dots are on top of each other at the center of the screen.



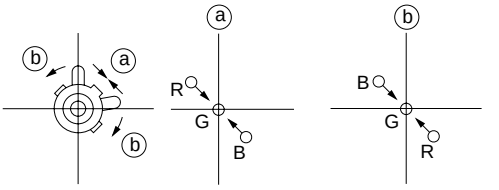
① V. STAT



② H. STAT VR

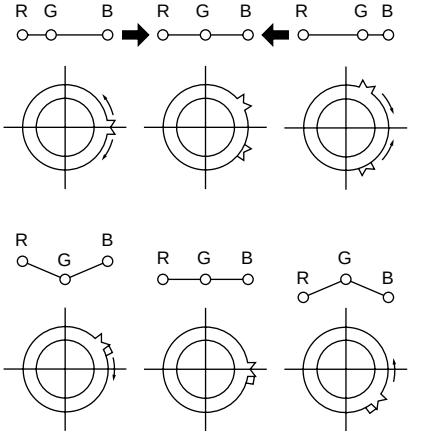


③



④ BMC (Hexapole) Magnet.

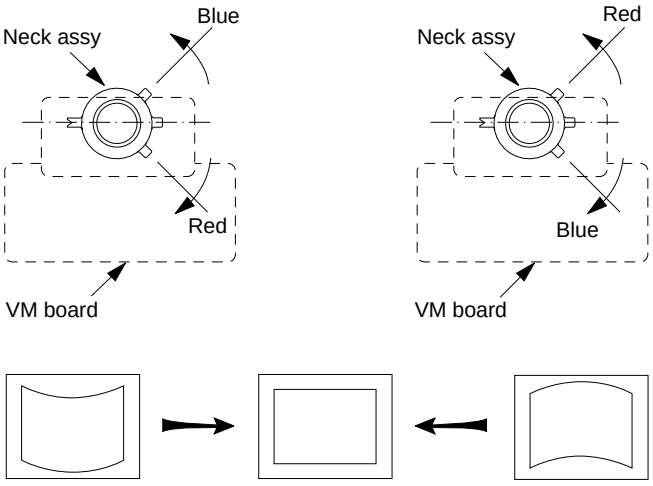
If the red, green and blue dots are not balanced or aligned, then use the BMC magnet to adjust in the manner described below.



④ Y separation axis correction magnet adjustment.

1. Receive the cross-hatch signal and adjust [PICTURE] to [MIN] and [BRIGHTNESS] to [STANDARD] .

2. Adjust the Y separation axis correction magnet on the neck assembly so that the horizontal lines at the top and bottom of the screen are straight.



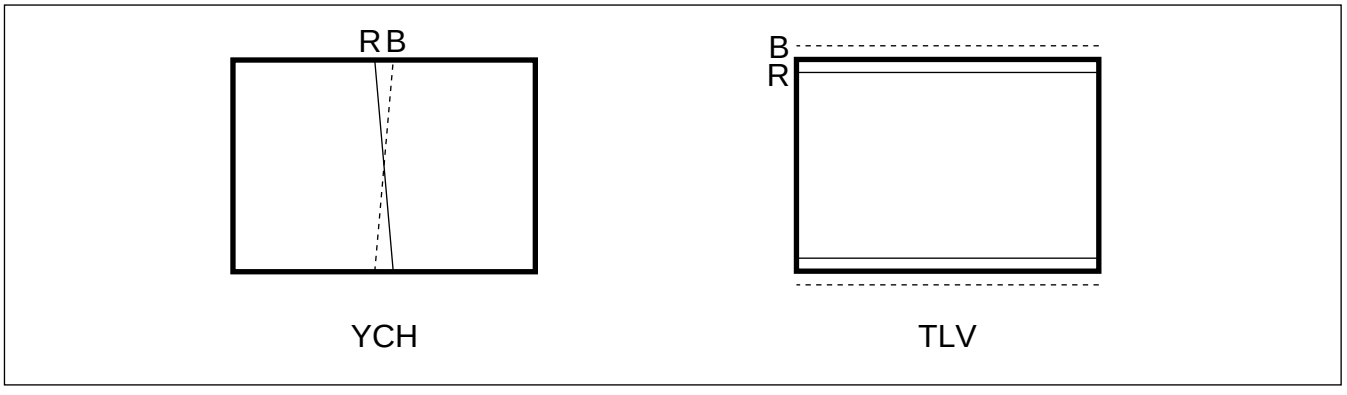
Note

1. The Red and Blue magnets should be equally far from the horizontal center line.
2. Do not separate the Red and Blue magnets too far. (Less than 8 mm)

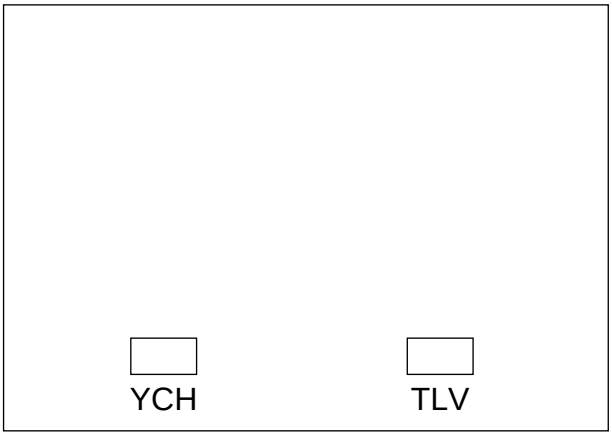
(2) Dynamic Convergence Adjustment

Preparation:

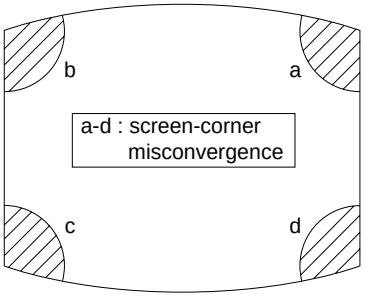
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence



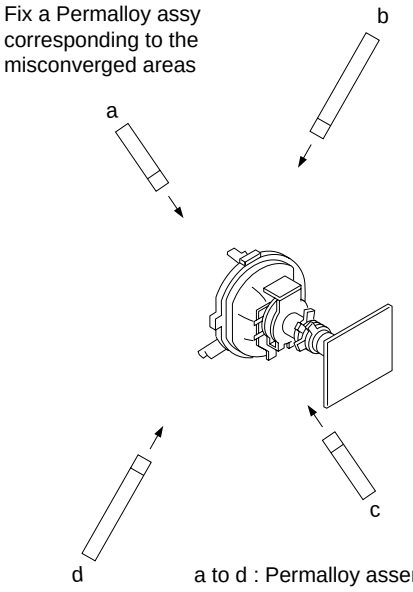
<u>on DY</u>



(3) Screen-corner Convergence

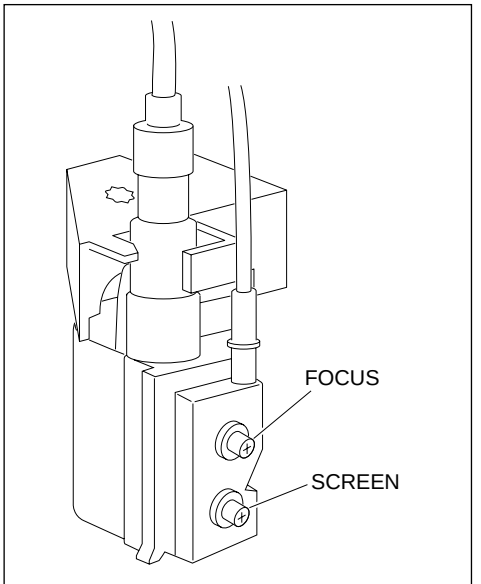


Fix a Permalloy assy corresponding to the misconverged areas.



3-3. FOCUS ADJUSTMENT

Adjust FOCUS control on the flyback transformer for the best focus.

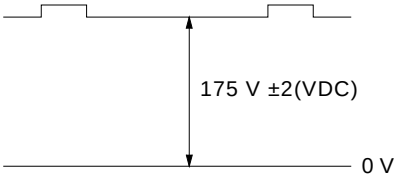


FLYBACK TRANSFORMER (T503)

3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G2 (SCREEN) ADJUSTMENT

1) Set the PICTURE to normal.
2) Put to VIDEO input mode without signals.
3) Connect R, G and B of the C board cathode to the oscilloscope.
4) Adjust BRIGHTNESS to obtain the cathode voltage to the value below.
5) Adjust G2 (Screen) on FBT until picture shows the point before cut-off.

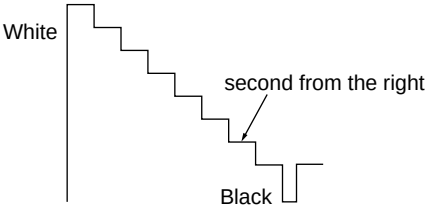


2. WHITE BALANCE ADJUSTMENT

1) Set to Service Mode (Refer Section 5-1: ADJUSTMENTS WITH COMMANDER).
2) Input white raster signal.
3) Set the PICTURE to minimum.
4) Select GCT (WHB 4) and BCT (WHB 5) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
5) Set the PICTURE to maximum.
6) Select GDR (WHB 1) and BDR (WHB 2) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
7) Write into the memory by pressing [MUTING] then [0].

3. SUB BRIGHT ADJUSTMENT

1) Set to service mode.
2) Input a staircase signal of black to white from the pattern generator.
3) BRIGHTNESS ....50%.
   PICTURE .....MINIMUM
4) Select SBR (WHB7) with [1] and [4], and adjust SBR (WHB7) level with [3] and [6] so that the second stripe from the right is dimly lit.



SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ADJUSTMENTS WITH COMMANDER

Service adjustments are made with the RM-952 that comes with this unit.

a. ENTERING SERVICE MODE

With the unit on standby
↓
[DISPLAY]
↓
[5]
↓
[VOL (+)]
↓
[POWER]

This operation sequence puts the unit into service mode.

b. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press [POWER] button on the commander), then press [POWER] button again, hereupon it becomes TV mode.

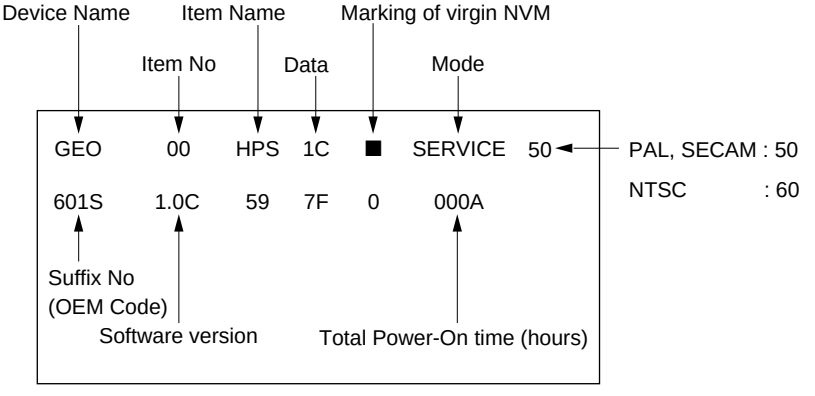
c. METHOD OF WRITE INTO MEMORY

1) Set to Service Mode.
2) Press [1] (UP) and [4] (DOWN), select an item of adjustment.
3) Press [MUTING] button and it will indicate WRITE on the screen.
4) Press [0] button to write into memory.

d. MEMORY WRITE CONFIRMATION METHOD

1) After adjustment, pull out the plug from AC outlet, and then plug into AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again to confirm adjustments were made.

The screen display is :



[1], [4]	Select the adjustment item.
↓	
[3], [6]	Raise/lower the data value.
↓	
[MUTING]	Writes.
↓	
[0]	Executes the writing.

[7], [0]	All the data becomes the values in memory.
[8], [0]	All user control goes to the standard state.
[5], [0]	Service data initialization (Be sure not to use usually.)
[2], [0]	Write 50Hz adjustment data to 60Hz, or vice versa.

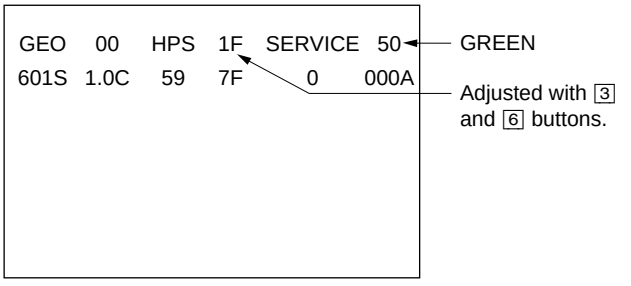
RM-952

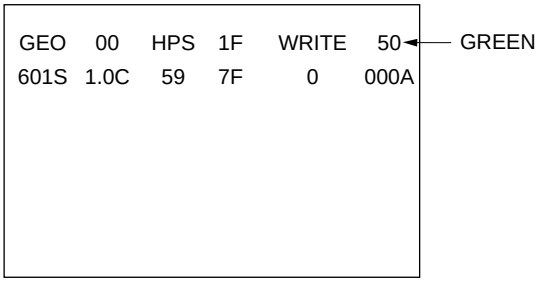
4-2. ADJUSTMENT METHOD

Item Number 00 of device GEO

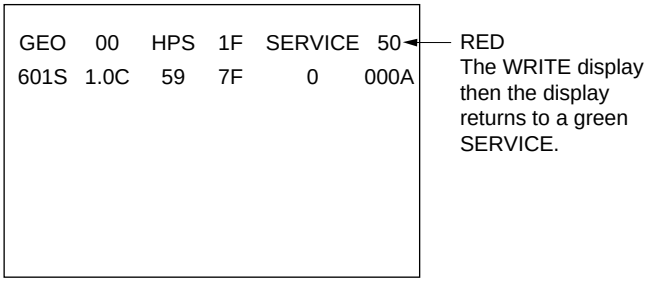
This explanation uses H-Position as an example.

1. Select “GEO 00 HPS” with the [1] and [4] buttons.
2. Raise/lower the data with the [3] and [6] buttons.
3. Select the optimum state. (The standard is 1F for PAL reception.)
4. Write with the [MUTING] button. (The display changes to WRITE.)
5. Execute the writing with the [0] button. (The WRITE display will be changed to red color while excuting, and back to SERVICE.)





Written with [MUTING]



Write executed with [0]

Use the same method for all Items. Use [1] and [4] to select the adjustment item, use [3] and [6] to adjust, write with [MUTING], then execute the write with [0].

Note : 1. In [WRITE], the data for all items are written into memory together.

2. For adjustment items that have different standard data between 50Hz or 60Hz, be sure to use the respective input signal after adjustment.

Adjustment Item Table

Device Name	Functionality No	Functionality Name	Note	Data Range	Function	Note for Different Data	Register No. (bit)	Slava Address	RAM Address (bit)
GEO	0	HPS	7	3F	H Position	50/60HZ	12 (7-2)	CXA2130S(88H)	82 (7-2)
	1	HSZ	1F	3F	H Size	50/60HZ	11 (7-2)		81 (7-2)
	2	PAP	1F	3F	Pin Amp	50/60HZ	13 (7-2)		83 (7-2)
	3	TLT	7	0F	Trapezium	50/60HZ	15 (7-4)		86 (7-4)
	4	VPS	1F	3F	V Position	50/60HZ	0F (7-2)		7F (7-2)
	5	VSZ	1F	3F	V Size	50/60HZ	0E (7-2)		7E (7-2)
	6	SCO	7	0F	S Correction	50/60HZ	10 (7-4)		80 (7-4)
	7	VLN	7	0F	V Linearity	50/60HZ	10 (3-0)		80 (3-0)
	8	BOW	7	0F	AFC Bow	50/60HZ	16 (7-4)		86 (7-4)
	9	AGL	7	0F	AFC-Angle	50/60HZ	16 (3-0)		86 (3-0)
	0A	UPN	1F	3F	Upper Pin	50/60HZ	14 (7-2)		84 (7-2)
	0B	LPN	2F	3F	Lower Pin	50/60HZ	18 (7-2)		88 (7-2)
	0C	HBL	1	1	H Blanking on/off		18 (1)		67 (1)
	0D	LBL	7	0F	Left H Blanking	50/60HZ	17 (7-4)		87 (7-4)
	0E	RBL	7	0F	Right H Blanking	50/60HZ	17 (3-0)		87 (3-0)
WHB	0	RDR	1F	3F	R Drive	DYNAMIC/others	09 (7-2)	CXA2130S(88H)	8F (7-2)
	1	GDR	1F	3F	G Drive	DYNAMIC/others	0A (7-2)		90 (7-2)
	2	BDR	1F	3F	B Drive	DYNAMIC/others	0B (7-2)		91 (7-2)
	3	RCT	7	0F	R Cutoff	SECAM/others	07 (3-0)		93 (3-0)
	4	GCT	7	0F	G Cutoff	SECAM/others	08 (7-4)		94 (7-4)
	5	BCT	7	0F	B Cutoff	SECAM/others	08 (3-0)		94 (3-0)
	6	BMN	15	1F	Brightness Minimum Data				95
	7	SBR	28	3F	Sub Brightness Control				98
SAJ	0	PMX	33	3F	Picture Maximum Data			CXA2130S(88H)	95
	1	SHU	8	0F	Sub Hue Control	TV/Video			99
	2	SSH	3	0F	Sub Sharpness Control	TV/Video			9A
	3	SCL	1F	3F	Sub Color Control	NTSC/others			9B
VP	0	EHT	4	0F	EHT Comp	50/60HZ	15 (3-0)	CXA2130S(88H)	85 (3-0)
	1	GMA	2	03	Gamma Correction	NTSC/others	0B (1-0)		1A1 (1-0)
	2	YDL	6	0F	Y Delay	PAL/SECAM/NTSC	0C (3-0)		8C (3-0)
	3	SST	2	03	SECAM ID Start Position		1B (1-0)		6A (1-0)
	4	SSP	1	03	SECAM ID Stop Position		1B (3-2)		6A (3-2)
	5	SLV	2	03	SECAM ID Level		1C (1-0)		6B (1-0)
	6	SBF	22	3F	SECAM BELL fO		1C (7-2)		6B (7-2)
	7	DYC	1	1	Dynamic Color on/off		0A (1)		59 (1)
	8	ABL	1	1	ABL Mode Switching (except STANDARD)		09 (1)		58 (1)
	9	VTH	1	1	ABL Detection Vth Switching		09 (0)		58 (0)
	0A	SFO	1	1	FO Switching for Sharpness	NTSC/others	05 (1)		196 (1)
	0B	DCX	1	1	DC Trans. Ratio Switching		06 (1)		55 (1)
	0C	SHT	1	1	Pre-/Overshoot ratio Switch	NTSC/others	06 (0)		197 (0)

Adjustment Item Table

Device Name	Functionality No	Functionality Name	Note	Data Range	Function	Note for Different Data	Register No. (bit)	Slava Address	RAM Address (bit)
VP	0D	HDW	0	1	H Drive Pulse Width Switch		00 (6)		4F (6)
	0E	AFC	1	03	AFC Gain Control	TV/Video	0F (1-0)		8D (1-0)
	0F	HOS	7	0F	H Oscillation		0C (7-4)		5B (7-4)
	10	HSS	0	1	Slice Level of H Sync Sep.		0D (1)		5C (1)
	11	VSS	0	1	Slice Level of V Sync Sep.		0D (0)		6C (0)
	12	HMS	1	1	Macro Vision C/m off/on	50/60Hz	0E (0)		7E (0)
	13	YUV	1	1	YUV Switch Control		01 (0)		50 (0)
	14	CDV	02	3	CD mode for Video	Video only	0D (5-4)		19F (5-4)
	15	RON	1	1	R ON	not memorized	01 (3)		50 (3)
	16	GON	1	1	G ON	not memorized	01 (2)		50 (2)
	17	BON	1	1	B ON	not memorized	01 (1)		50 (1)
	18	PON	1	1	P ON	not memorized	00 (7)		4F (7)
	19	BLK	0	1	BLK Off		12 (0)		61 (0)
	1A	VMC	0	1	VM Off		13 (0)		62 (0)
AP	0	INF	0	3F	Input Attenuation When surround on		00 (5-0)	TDA7429	19D (5-0)
	1	INS	0	3F	Input Attenuation When surround off				19E (5-0)
	2	PH1	0	3	Phase 1 Register Selection		02		76 (1-0)
	3	PH2	0	3	Phase 2 Register Selection				76 (3-2)
	4	PH3	0	3	Phase 3 Register Selection				76 (5-4)
	5	PH4	0	3	Phase 4 Register Selection				76 (7-6)
	6	BCS	2	3	Bass Center Shift		#4 (3-0)		1A8 (1-0)
	7	TCS	2	3	Treble Center Shift		#5 (3-0)		1A9 (1-0)
	8	TRF	2	3	RF Treble Offset		#5 (3-0)		1A9 (5-4)
MSP	0	WST	15	FF	W/G Stereo Threshold			MSP3415D(84H)	157 (7-0)
	1	WBT	EA	FF	W/G Bilingual Threshold				158 (7-0)
	2	WLL	5	FF	W/G Monaural Threshold				159 (7-0)
	3	WAC	0	0F	W/G Agreement Count				15A (3-0)
	4	WDL	30	FF	W/G Search Delay				15B (7-0)
	5	NDL	20	FF	NICAM Search Delay				15C (7-0)
	6	SDL	10	FF	Stereo status Read Delay				15D (7-0)
	7	AGC	1	1	AGC Switch Auto/Constant		BB (7)		108 (7)
	8	REL	28	3F	AGC Gain at Constant Mode		BB (6-1)		108 (6-1)
	9	CRM	0	1	Carrier muting on/off		BB (9)		107 (9)
	0A	ACO	1	1	Audio Clock out on/off		83 (5)		10C (5)
	0B	FP	1B	7F	FM Prescale for non-M system		0E (7-0)		16C (6-0)
	0C	FPM	32	7F	FM Prescale for M system		0E (7-0)		16D (6-0)
	0D	FH	36	7F	FM Prescale for HDEV		0E (7-0)		16E (6-0)
	0E	FHM	65	7F	FM Prescale for HDEV and M		0E (7-0)		16F (6-0)
	0F	WGP	2A	7F	W/G Prescale		0E (7-0)		170 (6-0)
	10	NIP	6D	7F	NICAM Prescale		10 (7-0)		138 (6-0)
	11	ERR	50	FF	Auto FM switch Threshold		21 (10-3)		166 (7-0)
	12	VOL	6D	FF	Loud Speaker gain 7000h to 7ffoh		0000 (15-4)		1A7 (7-0)

Adjustment Item Table

Device Name	Functionality No	Functionality Name	Note	Data Range	Function	Note for Different Data	Register No. (bit)	Slava Address	RAM Address (bit)
TXT	0	TXH	1	3	Teletext Horizontal Position			(58H)	18D (6-4)
	1	TXV	0	7	Teletext Vertical Position				18D (1-0)
OPM	0	OSH	0A	3F	OSD H Position	Option-Misc			AC (7-2)
	1	COM	0	03	Comb Selection				A5 (7-6)
	2	APC	1	1	APC Switch				A4 (5)
	3	TSY	0	03	TV Sys at Auto TV Sys				A4 (4-3)
	4	MUT	0	1	No Signal Mute				A4 (0)
	5	AFM	1	1	Auto FM switch				A4 (1)
	6	RFB	0	3	C-BPF Control				A4 (5-4)
	7	DBL	0	1	Disable Blueback Function				A4 (2)
OPB	0	OP1	FF	FF	Optional Bits 1 (see below)	Option-Bits			45
	1	OP2	E3	FF	Optional Bits 2 (see below)				46
	2	OP3	0	FF	Optional Bits 3 (see below)				47

NOTE

- shaded items are fixed data.
- Standard data listed on the Adjustment Item Table are reference values, therefore it may be different for each model and for each mode.
- Note for Different Data Those are the standard data values written on the microprocessor. Therefore, the data values of the modes and stored respectively in the memory.
  In case of a device replacement, adjustment by rewriting the data value is necessary for some items.

ITEM INFORMATION.

No. OPB0 OP1

Item	XTAL 4.43	XTAL 3.58	SECAM	2nd. Lang	B/G	I	D/K	M
KV-XF21M30	1	1	1	1	1	1	1	1
KV-XF21M50	1	1	1	1	1	1	1	1
KV-XF51M65	1	1	1	1	1	1	1	1

No. OPB1 OP2

Item	TOP	NICAM	HDEV	Thai Bil	–	DVD Input	AV Input	
KV-XF21M30	1	1	1	0	0	0	1	1
KV-XF21M50	1	1	1	0	0	0	1	1
KV-XF51M65	1	1	1	0	0	0	1	1

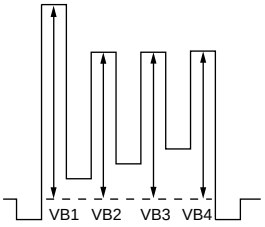
No. OPB2 OP3

Item	–	–	Auto PIC	Auto TV sys	US ST	Arabic	11 KEY	Chinese
KV-XF21M30	0	0	1	1	0	0	0	1
KV-XF21M50	0	0	0	1	0	0	0	1
KV-XF51M65	0	0	1	1	0	0	0	1

4-3. PICTURE QUALITY ADJUSTMENTS

SUB COLOR ADJUSTMENT

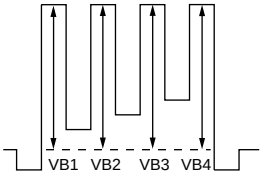
1. Input a PAL color-bar.
2. Set to the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
3. Connect an oscilloscope to pin ① (B OUT) of CN305, A board.
4. Set to Service Mode and select SAJ 3 'SCL' with [1] and [4] of the commander then adjust to VB2=VB3=VB4 with [3] and [6].
5. Press [MUTING] → [0] of the commander to write the data.
6. Adjust SAJ 3 'SCL' as step 2 to 5 when receiving NTSC color-bar.



VB2 = VB3 = VB4

SUB HUE ADJUSTMENT

1. Select Video 1.
2. Input a NTSC color-bar, video into Video 1.
3. Set the following condition:
   PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
4. Connect an oscilloscope to pin ① (B OUT) of CN305, A board.
5. Select SAJ 1 'SHU' with [1] and [4] of the commander by setting to Service Mode and adjust to VB1=VB2=VB3=VB4 with [3] and [6].

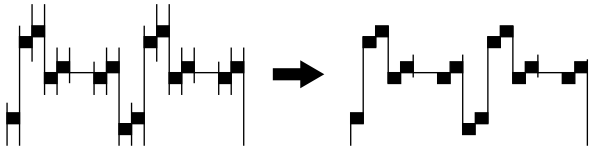


VB1 = VB2 = VB3 = VB4

6. Press [MUTING] → [0] of the commander to write the data.

BELL FILTER ADJUSTMENT

1. Input SECAM color-bar signal.
2. Connect the dual-trace oscilloscope to the pin ⑨ (R-Y) of CN303 (not mounted).
3. Adjust SERVICE MODE, ITEMS 'SBF' as shown below.



4-4. A BOARD ADJUSTMENT AFTER IC003 (MEMORY) REPLACEMENT

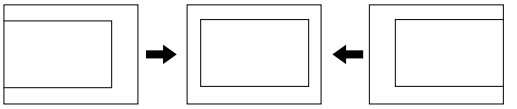
When replacing IC003 (MEMORY), be sure to change IC001 (µ-COM) to the following new IC at the same time.
IC001(µ-CON):CXP86449-611S

1. Enter to Service Mode.
2. Press commander buttons [5] and [0] (Data Initialize), and [2] and [0] (Data Copy) to initialize the data.
3. Call each item number and check if the respective screen shows the normal picture.
   In cases where items are not well adjusted, rectify the items with fine adjustment.
   Write the data per each item number ([MUTING] +[0]).
4. Select item numbers "OPB0" (OP1), "OPB1" (OP2) and "OPB2" (OP3) and respectively set the bit per model with command buttons [3] and [6].
5. Press commander buttons [8] and [0] (Test Normal) to return to the data that was set on the shipment from the factory.
   (This will also cancel Service Mode.)

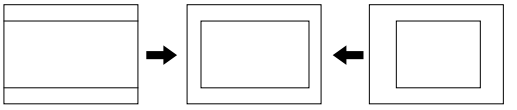
4-5. PICTURE DISTORTION ADJUSTMENT

Item Number 00 – 0B

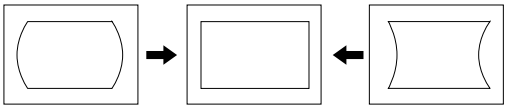
GEO 0 HSH (H POSITION)



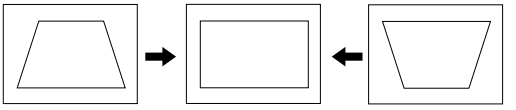
GEO 1 HSZ (H SIZE)



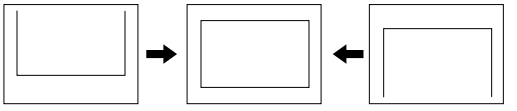
GEO 2 PAP (PIN AMP)



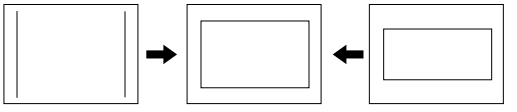
GEO 3 TILT (TRAPEZIUM)



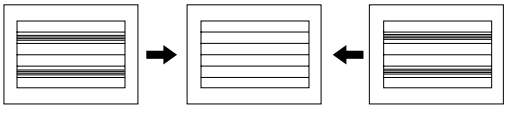
GEO 4 VSH (V POSITION)



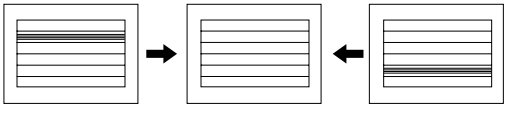
GEO 5 VSZ (V SIZE)



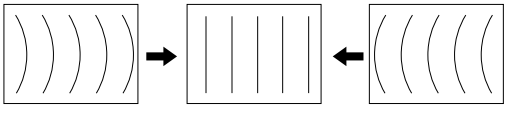
GEO 6 SCR (VERTICAL S-Correction)



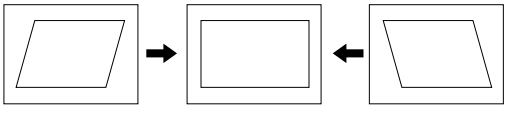
GEO 7 VLN (V LINEARITY)



GEO 8 VBOW (AFC.BOW)

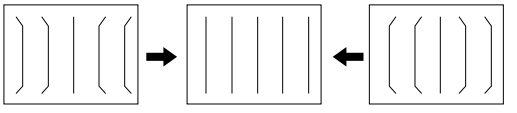


GEO 9 AGL (AFC.ANGLE)



GEO 0A UCP (UPPER CORNER PIN)

GEO 0B LCP (LOWER CORNER PIN)

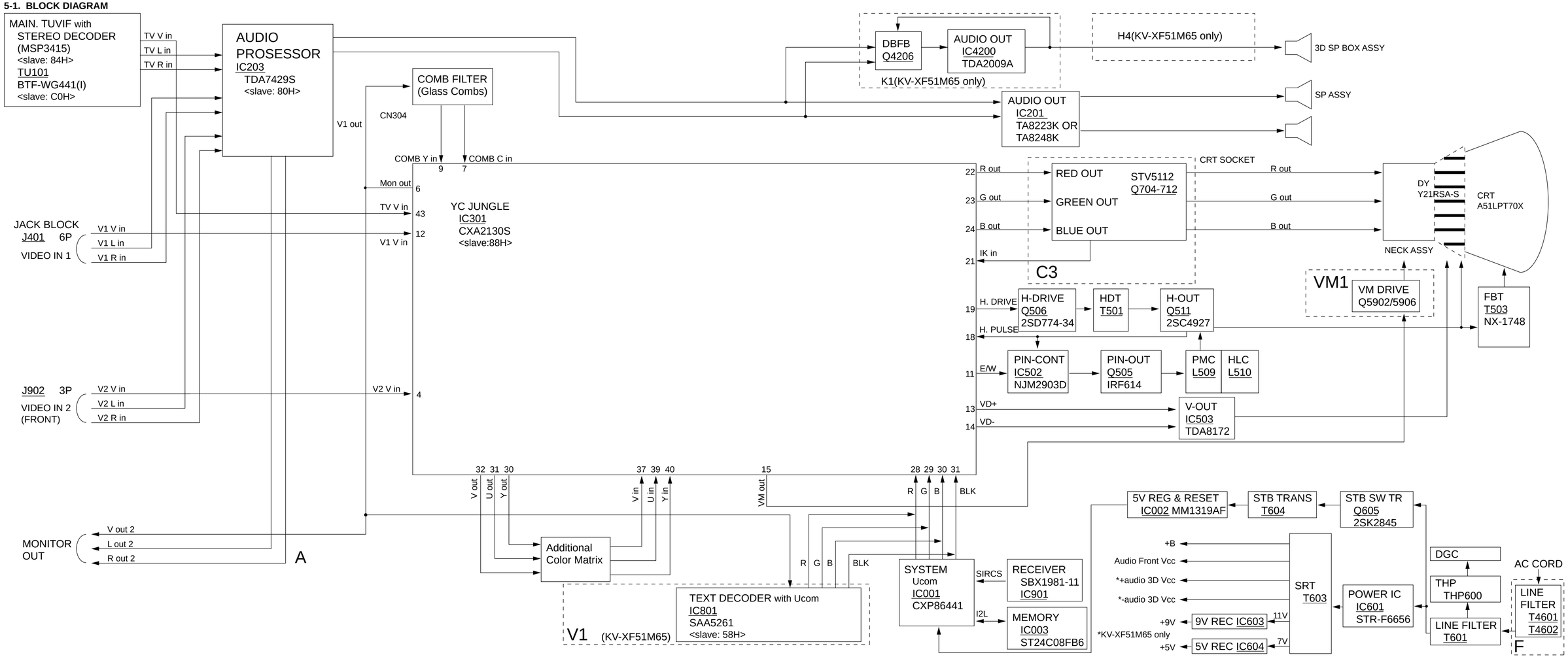


KV-XF21M30/XF21M50/XF51M65
RM-952

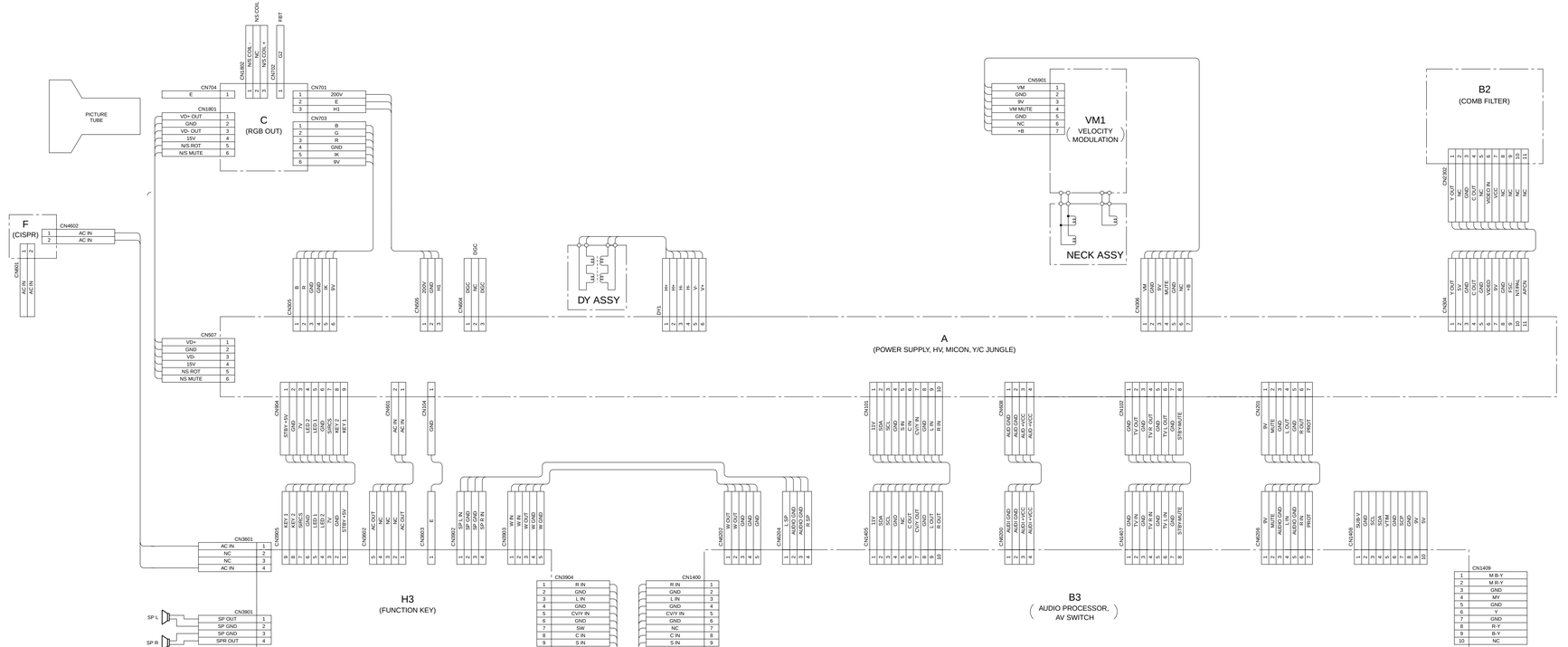
KV-XF21M30/XF21M50/XF51M65
RM-952

SECTION 5
DIAGRAM

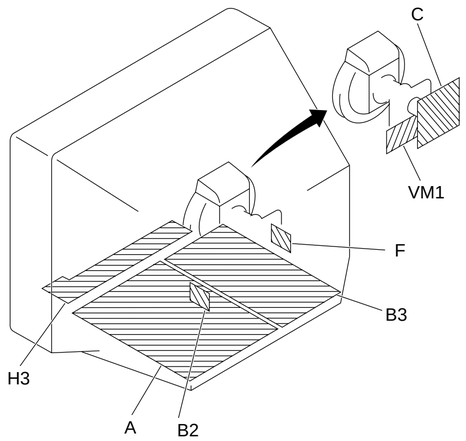
5-1. BLOCK DIAGRAM



5-2. FRAME SCHEMATIC DIAGRAM



5-3. CIRCUIT BOARDS LOCATION



5-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in µF unless otherwise noted.
- All electrolytic capacitors are rated at 50V unless otherwise noted.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000kΩ
- Indication of resistance which does not have rating electrical power is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W (CHIP: 1/10W)

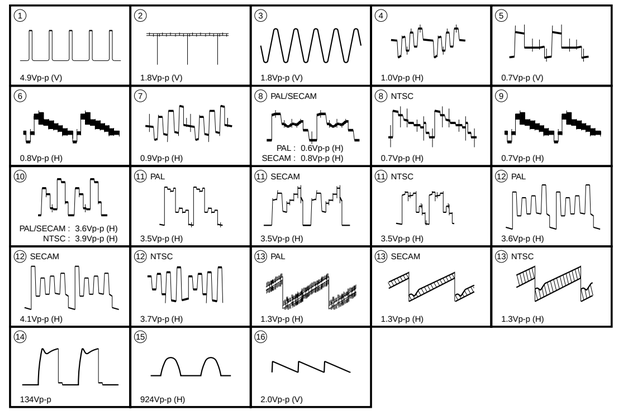
- : nonflammable resistor.
- △ : internal component.
- : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B unless otherwise noted.
- **Readings are taken with a color-bar signal input.**
  no mark : PAL
  ( ) : SECAM
  [ ] : NTSC 3.58
  « » : NTSC 4.43
- **Readings are taken with a 10 MΩ digital multimeter.**
- **Voltage are dc with respect to ground unless otherwise noted.**
- **Voltage variations may be noted due to normal production tolerances.**
- **All voltages are in V.**
- *** :Cannot be measured.**
- **Circled numbers are waveform references.**
- **:B + bus.**
- **:B – bus.**
- ⇨ **:signal path.**

Reference information

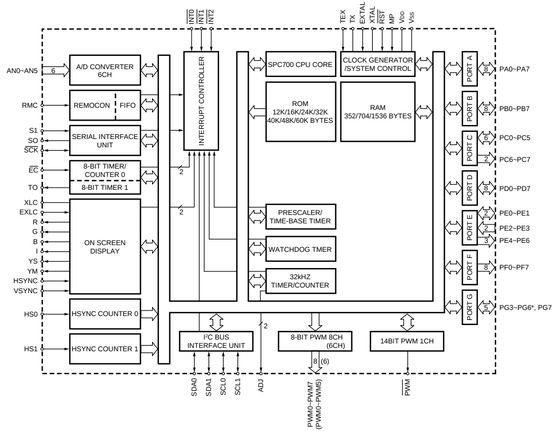
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The component identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A BOARD WAVEFORMS

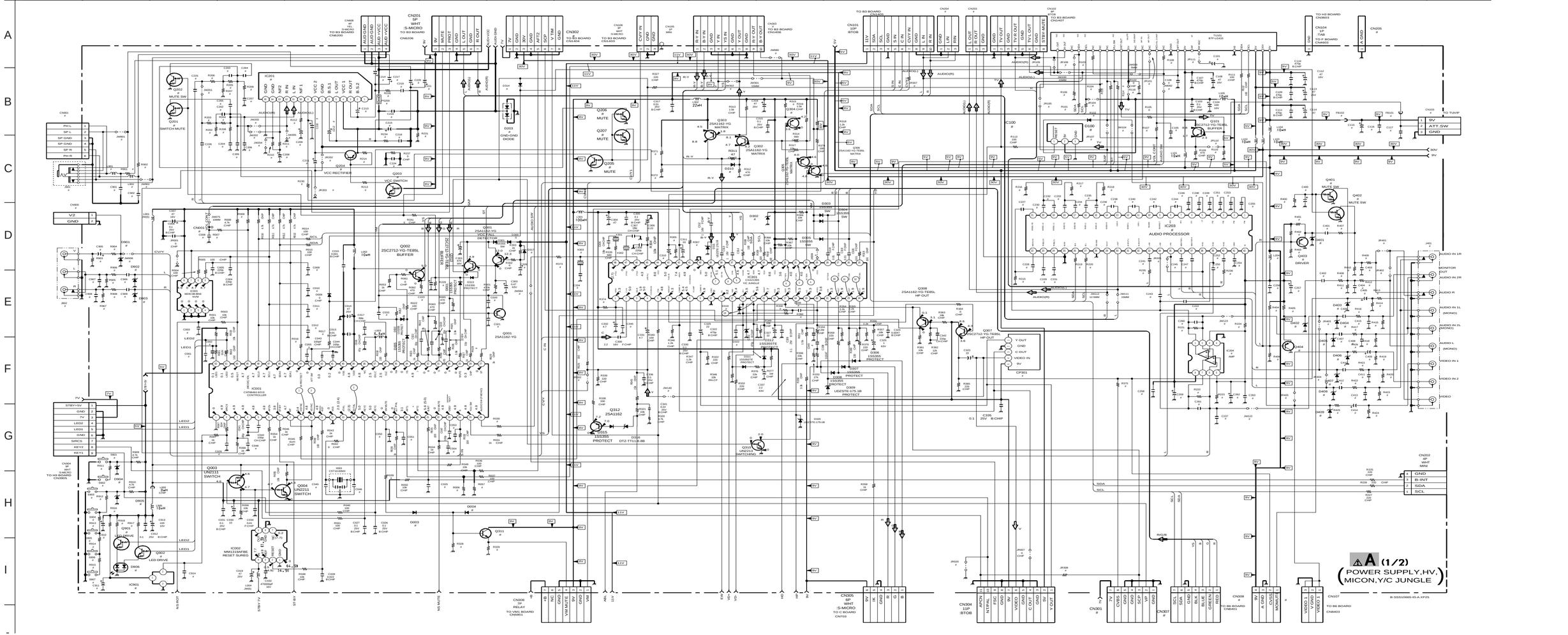

① 4.9Vp-p (V)
② 1.8Vp-p (V)
③ 1.8Vp-p (V)
④ 1.0Vp-p (H)
⑤ 0.7Vp-p (V)
⑥ 0.8Vp-p (H)
⑦ 0.9Vp-p (H)
⑧ PAL/SECAM PAL : 0.6Vp-p (H) SECAM : 0.8Vp-p (H)
⑧ NTSC 0.7Vp-p (H)
⑨ 0.7Vp-p (H)
⑩ PAL/SECAM : 3.6Vp-p (H) NTSC : 3.9Vp-p (H)
⑪ PAL 3.5Vp-p (H)
⑪ SECAM 3.5Vp-p (H)
⑪ NTSC 3.5Vp-p (H)
⑫ PAL 3.6Vp-p (H)
⑫ SECAM 4.1Vp-p (H)
⑫ NTSC 3.7Vp-p (H)
⑬ PAL 1.3Vp-p (H)
⑬ SECAM 1.3Vp-p (H)
⑬ NTSC 1.3Vp-p (H)
⑭ 134Vp-p
⑮ 924Vp-p (H)
⑯ 2.0Vp-p (V)

A BOARD IC001 CXP86461-621S

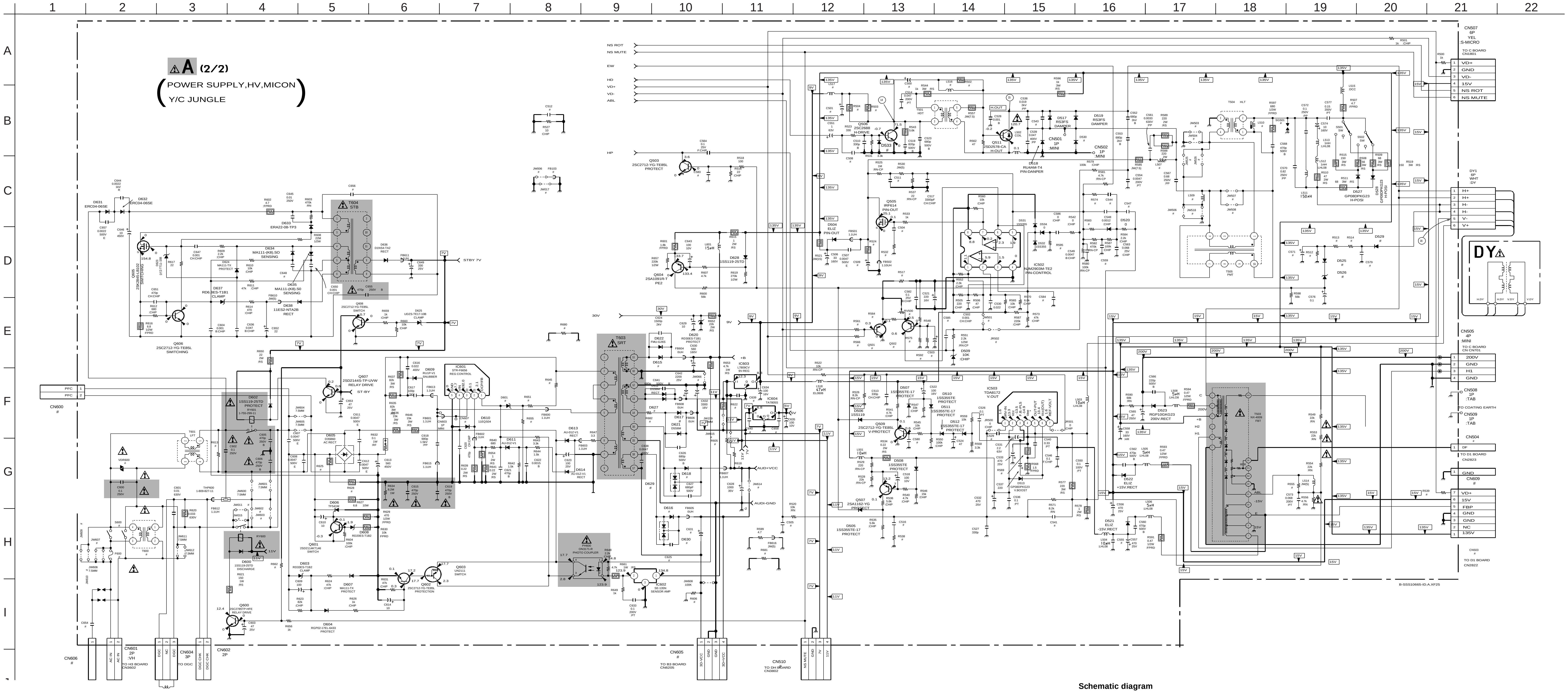


Schematic diagram
A(1/2) board ➡

(1) Schematic Diagram of A(1/2) Board



(2) Schematic Diagram of A(2/2) Board

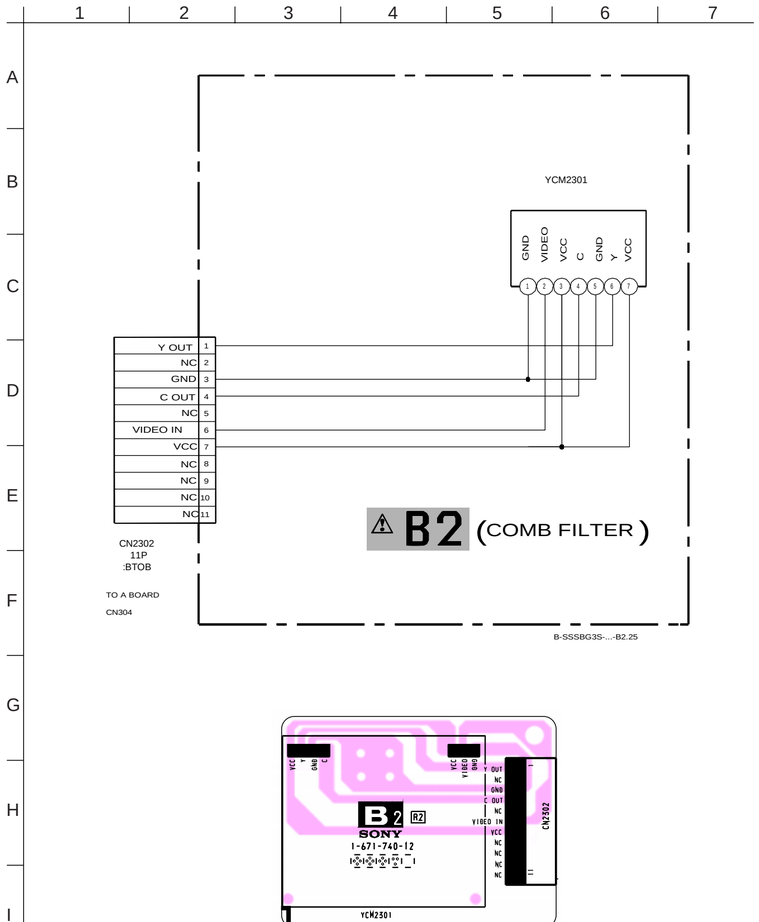


A (2/2)
POWER SUPPLY,HV,MICON
Y/C JUNGLE
CN507 6P YEL :S-MICRO TO C BOARD CN1801
VD+
GND
VD-
15V
NS ROT
NS MUTE
DY1 6P WHT :DY
H+
H+
H-
H-
V-
V+
DY
CN505 4P :MINI TO C BOARD CN CN701
200V
GND
H1
GND
CN508 1P :TAB
TO COATING EARTH
CN509 1P :TAB
CN504 DF TO D1 BOARD CN2823
CN609 GND
VD+
15V
FBP
GND
GND
NC
135V
CN503 TO D1 BOARD CN2822
CN600 PFC PFC
CN601 2P :VH TO H3 BOARD CN3602
AC IN
AC IN
CN604 3P TO DGC
DGC NC DGC
CN602 2P DGC CHK DGC CHK
CN606
CN605 TO B3 BOARD CN6205
3D-VCC GND GND 3D+VCC
CN510 TO DH BOARD CN3802
NS MUTE GND 7V 11V
T604 STB
T603 SRT
T503 NX-4009 FBT
T504 HLT
T505 PMT
IC601 STR-F6656 REG CONTROL
IC502 NJM2903M-TE2 PIN-CONTROL
IC503 TDA8172 V.OUT
IC603 L7809CV 9V-REG
IC604 TA7805S
IC602 SE-135N SENSOR AMP
PH600 ON3171-R PHOTO COUPLER
Q503 2SC2712-YG-TE85L PROTECT
Q604 2SA1091R-T PE2
Q506 2SC2688 H-DRIVE
Q511 2SD2578-CA H-OUT
Q505 IRF614 PIN-OUT
Q605 2SK2845-LB102 SWITCHING
Q606 2SC2712-YG-TE85L SWITCHING
Q608 2SC2712-YG-TE85L SWITCH
Q607 2SD2144S-TP-UVW RELAY DRIVE
Q600 2SC2785TP-HFE RELAY DRIVE
Q601 2SD2114KT146 SWITCH
Q602 2SC2712-YG-TE85L PROTECTION
Q603 UN2111 SWITCH
Q509 2SC2712-YG-TE85L V-PROTECT
Q507 2SA1162-YG PROTECT
STBY 7V
ST-BY
NS ROT
NS MUTE
EW
HD
VD+
VD-
ABL
HP
AUD+VCC
AUDI-GND
B-SSS10665-ID.A.XF25

Schematic diagram
A(2/2) board

MC-Service

(3) Schematic Diagram of B2 Board



A BOARD

IC

IC001	B-10
IC002	C-10
IC003	A-9
IC100	B-5
IC201	B-11
IC203	B-3
IC204	B-2
IC301	B-6
IC503	J-5
IC601	J-8
IC602	H-6
IC603	D-8
IC604	D-10
IC901	I-13

TRANSISTOR

Q001	C-8
Q002	B-8
Q003	C-9
Q004	B-9
Q101	A-4
Q201	A-11
Q202	A-11
Q203	C-11
Q204	C-12
Q205	A-12
Q206	A-11
Q207	A-12
Q301	A-8
Q302	B-6
Q303	A-6
Q304	A-6
Q305	B-6
Q306	B-5
Q307	C-7
Q308	C-7
Q309	C-7
Q310	D-8
Q311	D-9
Q312	B-7
Q313	B-8
Q315	B-5
Q401	D-2
Q402	D-1
Q403	D-2
Q404	C-3
Q501	D-6
Q502	E-7
Q503	F-6
Q505	D-6
Q506	E-2
Q507	H-6
Q509	F-6
Q511	F-1
Q600	D-12
Q601	F-11
Q602	J-7
Q604	H-6
Q605	E-12
Q606	F-11
Q607	H-13
Q608	E-12
Q901	H-13

DIODE

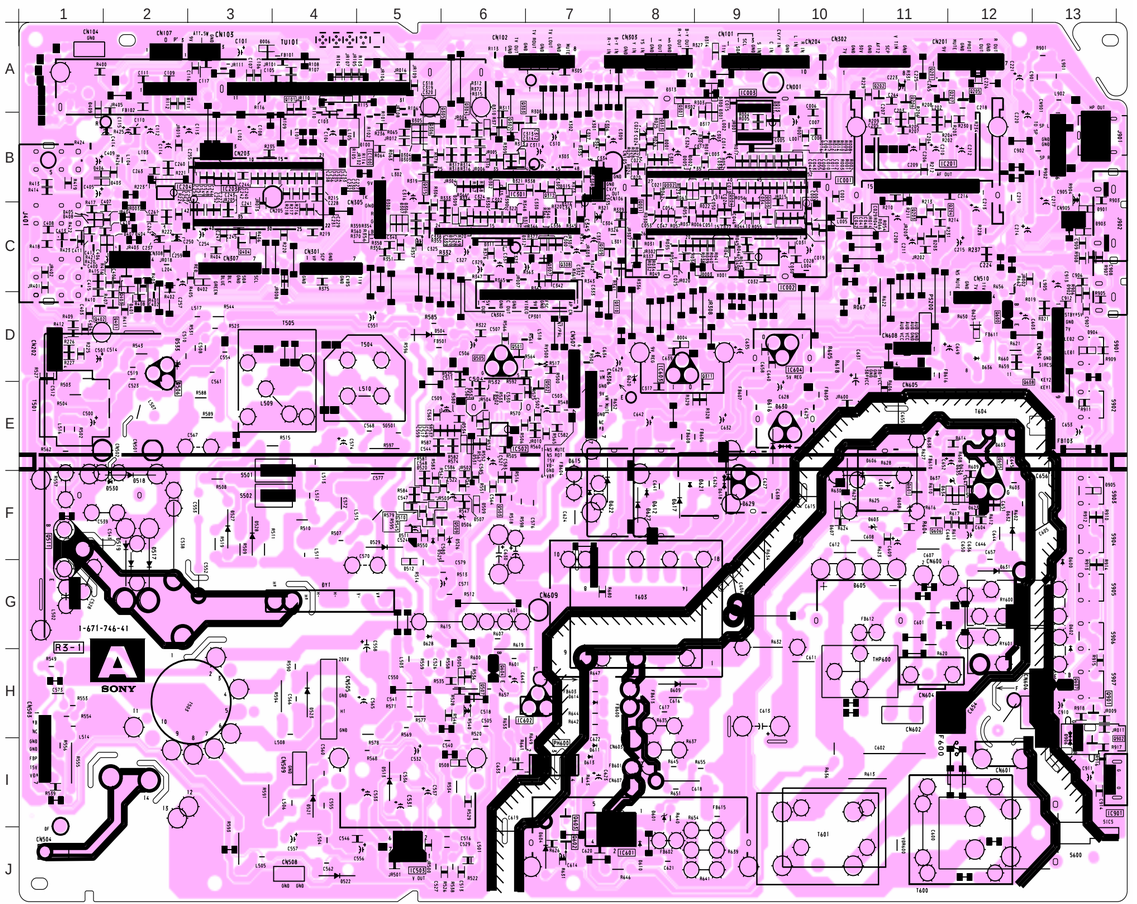
D001	B-8
D002	C-8
D003	C-9
D004	D-8
D005	B-8
D006	A-3
D100	B-5
D203	C-11
D300	A-9
D301	B-9
D302	B-6
D303	B-5
D304	B-5
D305	B-5
D306	C-5
D307	C-5
D308	C-5
D309	B-6
D310	A-6
D311	C-6
D312	C-6
D313	A-8
D315	B-7
D316	C-7
D317	B-9
D314	A-9
D319	C-6
D320	C-6
D321	B-6
D401	D-2
D402	D-3
D403	B-2
D404	C-2
D405	C-1
D406	B-1
D407	C-2
D408	C-1
D409	A-1
D504	D-5
D505	H-6
D506	F-6
D507	F-6
D508	I-6
D509	F-6
D510	F-5
D511	F-5
D512	G-5
D513	I-5
D517	F-2
D518	F-2
D519	F-2
D520	E-5
D521	I-4
D522	J-4
D523	H-4
D525	F-5
D527	F-3
D528	F-3
D529	F-5
D530	F-2
D531	E-6
D532	E-6
D533	D-2
D534	E-6
D600	G-13
D601	I-8
D602	G-13
D603	F-11
D604	J-7
D605	G-10
D606	E-11
D607	F-10
D608	F-11
D609	H-8
D611	I-7
D612	F-8
D613	I-7
D615	E-7
D616	E-9
D617	F-8
D618	F-9
D620	D-8
D621	F-9
D622	F-8
D623	F-12
D624	E-12
D625	D-12
D627	F-8
D628	G-5
D629	F-9
D630	E-10
D631	G-12
D632	F-12
D633	E-12
D634	F-11
D635	E-12
D636	D-12
D637	F-11
D638	E-11
D901	C-13
D902	C-13
D903	C-13
D904	D-13
D905	F-13
D906	I-13

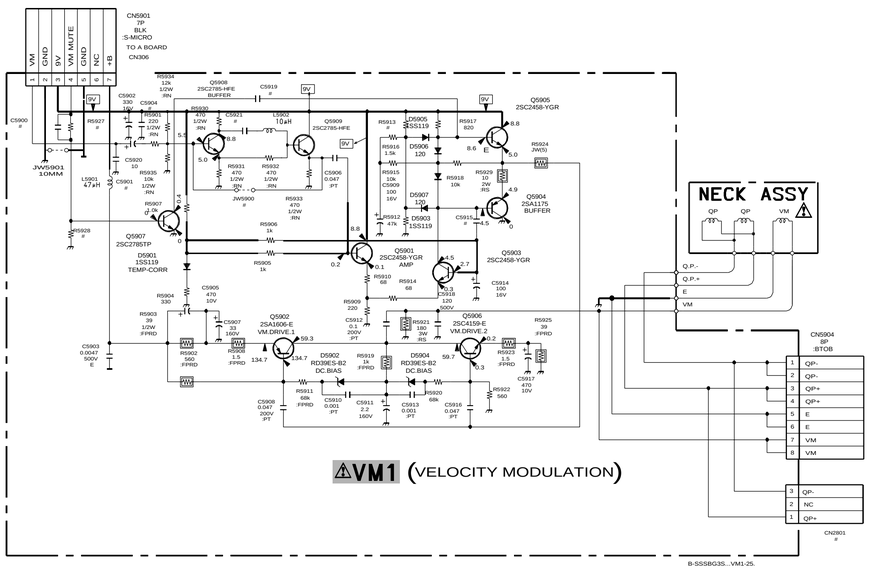
B2 [COMB FILTER] **A** [POWER SUPPLY, HV, MICON, Y/C JUNGLE]

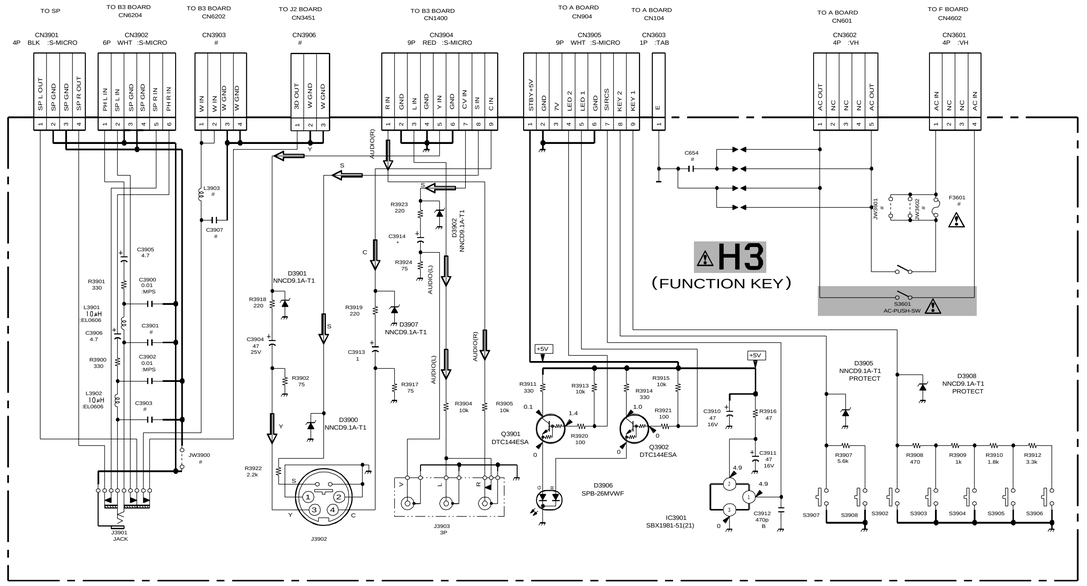
NOTE:
The circuit indicated at left contains high voltage of over 600 Vp-p. Please pay attention when inspecting or repairing it to prevent an electric shock.

PRINTED WIRING BOARDS

– A Board –





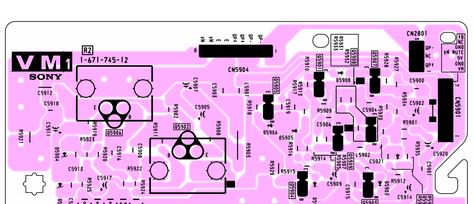


PRINTED WIRING BOARDS

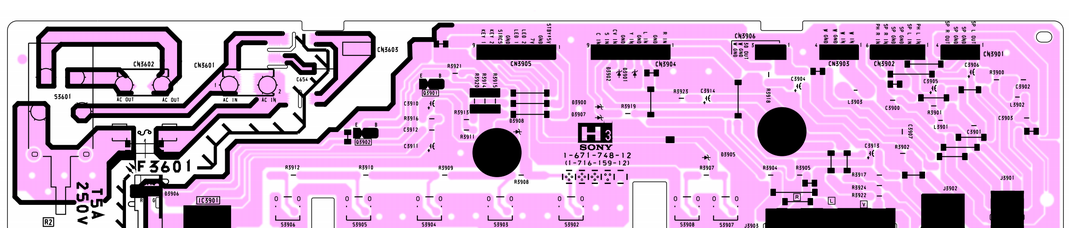
VM1 [VELOCITY MODULATION]

H3 [FUNCTION KEY]

– VM1 Board –



– H3 Board –



(5) Schematic Diagram of B3 Board

CN1400 9P WHT :S-MICRO
R IN
GND
L IN
GND
Y IN
GND
CV IN
S IN
C IN
TO H3 BOARD CN3904
D1415 UDZSTE-179.1B
D1416 UDZSTE-179.1B PROTECT
R/L/Y/S/C/CV
Q3201 2SK246GR-TPE2 VOL.
Q3202 2SC2712-YG INDUCTOR
D3201 1SS355TE-17 RECTIFY
IC3204 NJM4558M-TE2 BASS BOOST
IC3202 μPC4558G2
Q3204 2SK246GR-TPE2 VOL
D3203 1SS355TE-17 RECTIFY
Q3203 2SC2712-YG INDICATOR
Q6206 # MUTING
Q6202 # MUTING
Q6207 # VOL.
D6205 # RECTIFY
CN6204 6P WHT :S-MICRO
LPH
L SP
AUDIO GND
AUDIO GND
R SP
RPH
TO H3 BOARD CN3902
IC6200 TA8200AH AUDIO AMP
Q6203 UN2213 AMP
D6211 MA111-(K8).SO PROTECT
D6212 MA111-(K8).S0 PROTECT
Q6204 UN2213 AMP
Q6208 UN2213 AMP
Q6201 UN2213 AMP
D6201 #
D6202 #
Q6214 # AMP
CN6200 4P YEL :S-MICRO
AUDI GND
AUDI GND
AUDI +VCC
AUDI +VCC
TO A BOARD CN608
IC6201 # 3D AMP
PS6200 # IC LINK
PS6201 # IC LINK
Q6200 # MUTING
D6200 # PROTECTOR
Q6205 # MUTING
CN6202 #
W OUT
W OUT
GND
GND
TO H3 BOARD CN3903
IC3203 NJU4066BM-T2 SW
IC3201 NJM2187L TRU-SURR
IC3206 NJM2150D SUR. PROC.
IC3205 CXA1315P MID THRO
IC3207 TDA7315D-013TR TONE CTRL
IC3200 μPC4558G2 AUDIO MIXER
IC1403 # REG
IC1404 L7809CV REG
TU1401 #
Q1410 2SC27412-YG BUFFER
IC1402 # AUDIO IMPENDENCE MATCHING
D1401 UDZSTE-179.1B PROTECT
D1402 UDZSTE-179.1B PROTECT
D1403 UDZSTE-179.1B PROTECT
J1402 9P
Q1409 #
Q1408 #
D1410 UDZSTE-179.1B PROTECT
D1411 UDZSTE-179.1B PROTECT
D1412 UDZSTE-179.1B PROTECT
D1406 UDZSTE-179.1B PROTECT
D1407 UDZSTE-179.1B PROTECT
D1408 UDZSTE-179.1B PROTECT
D1404 UDZSTE-179.1B S1 PROTECT
D1409 UDZSTE-179.1B
D1405 UDZSTE-179.1B PROTECT
J1401 S TERMINAL
VIDEO IN 1
VIDEO IN 2
VIDEO IN 3
IC1401 CXA1855S A/V SW
Q1401 # BUFFER
Q1402 2SA1162 BUFFER
Q1403 2SC2712 BUFFER
Q1404 2SC2712-YG BUFFER
CN6205 # TO A BOARD CN605
CN6206 5P WHT :S-MICRO TO A BOARD CN201
CN1404 # TO A BOARD CN302
CN1405 10P WHT :BTOB TO A BOARD CN101
CN1406 # TO A BOARD CN303
CN1407 8P WHT :BTOB TO A BOARD CN102
CN1408 # TO P1 BOARD
CN1409 # TO P1 BOARD
CN1403 3P WHT :S-MICRO TO A BOARD CN106
CN1401 1P
CN1402 # TO B5 BOARD CN1502
B3
(AUDIO PROCESSOR,AV SWITCH)
B-SSSBG3S-...-B3.XF25

Schematic diagrams
← H3 VM1 boards

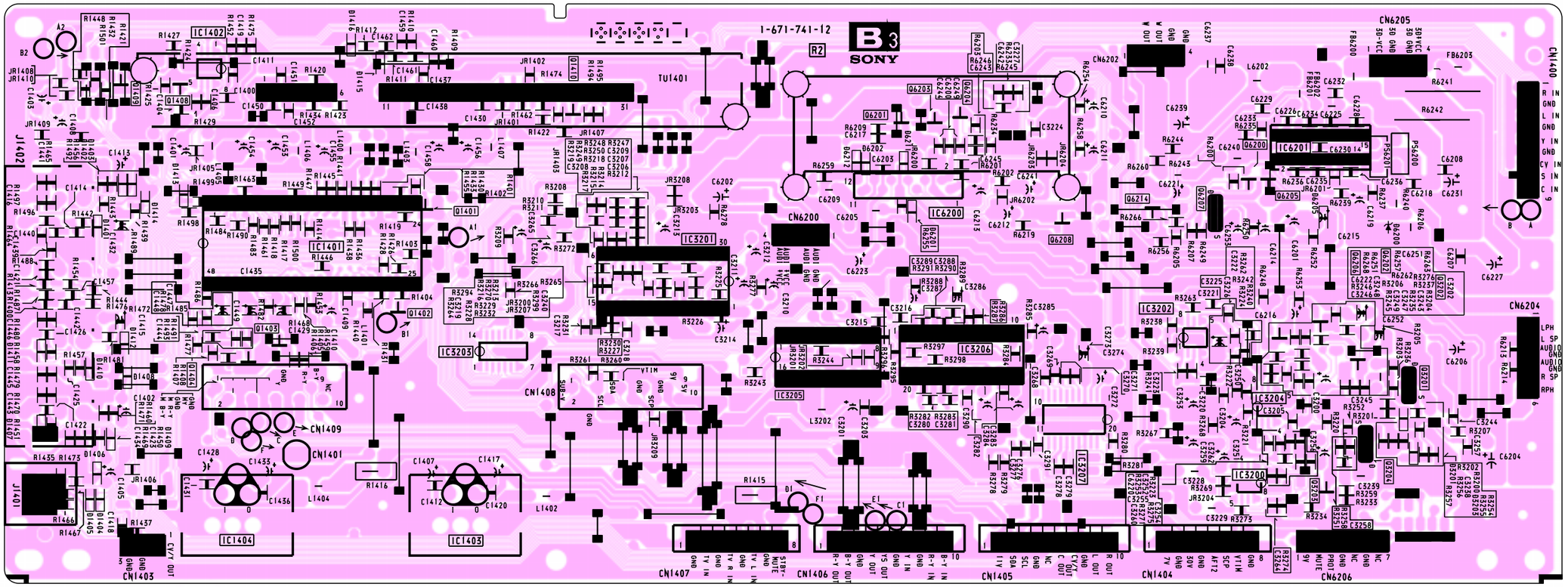
Schematic diagram
B3 board →

MC-Service

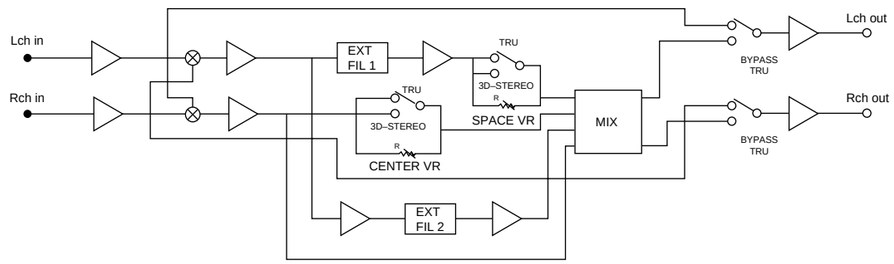
PRINTED WIRING BOARD

B3 [AUDIO PROSESSOR, AV SWITCH]

– B3 Board –



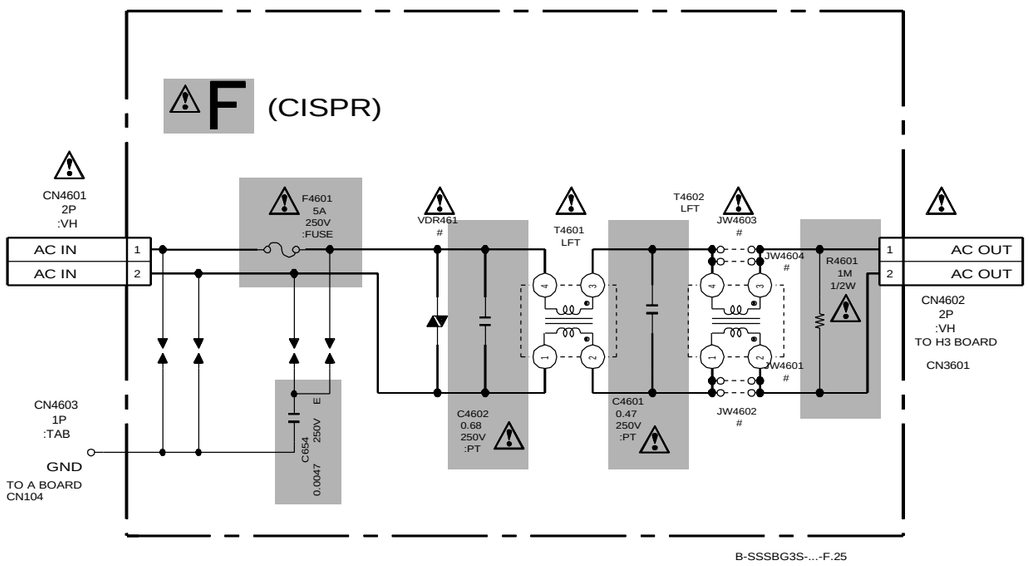
B3 BOARD IC3201 NJM2187L



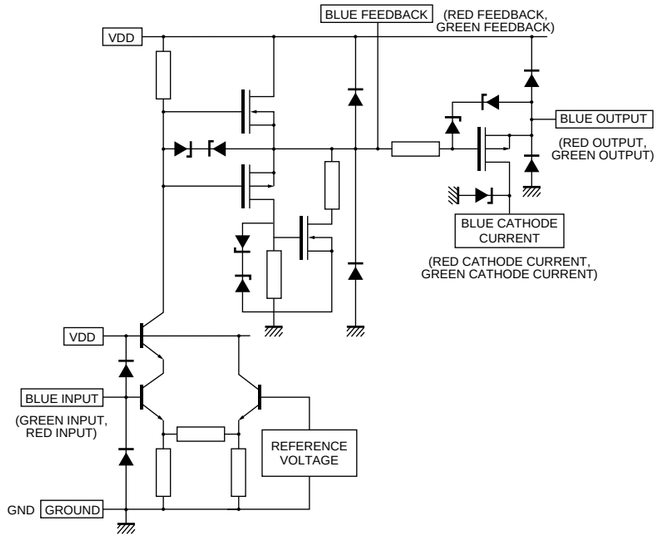
Schematic diagram

F board ➡

(6) Schematic Diagram of F Board



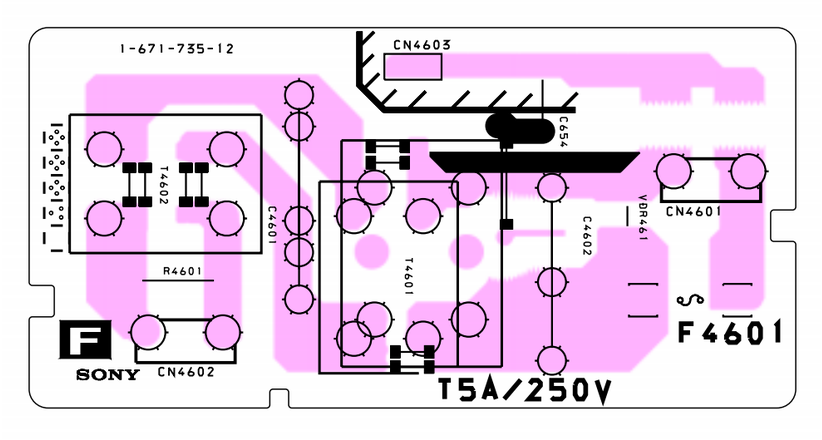
C BOARD IC701 STV5112



PRINTED WIRING BOARD

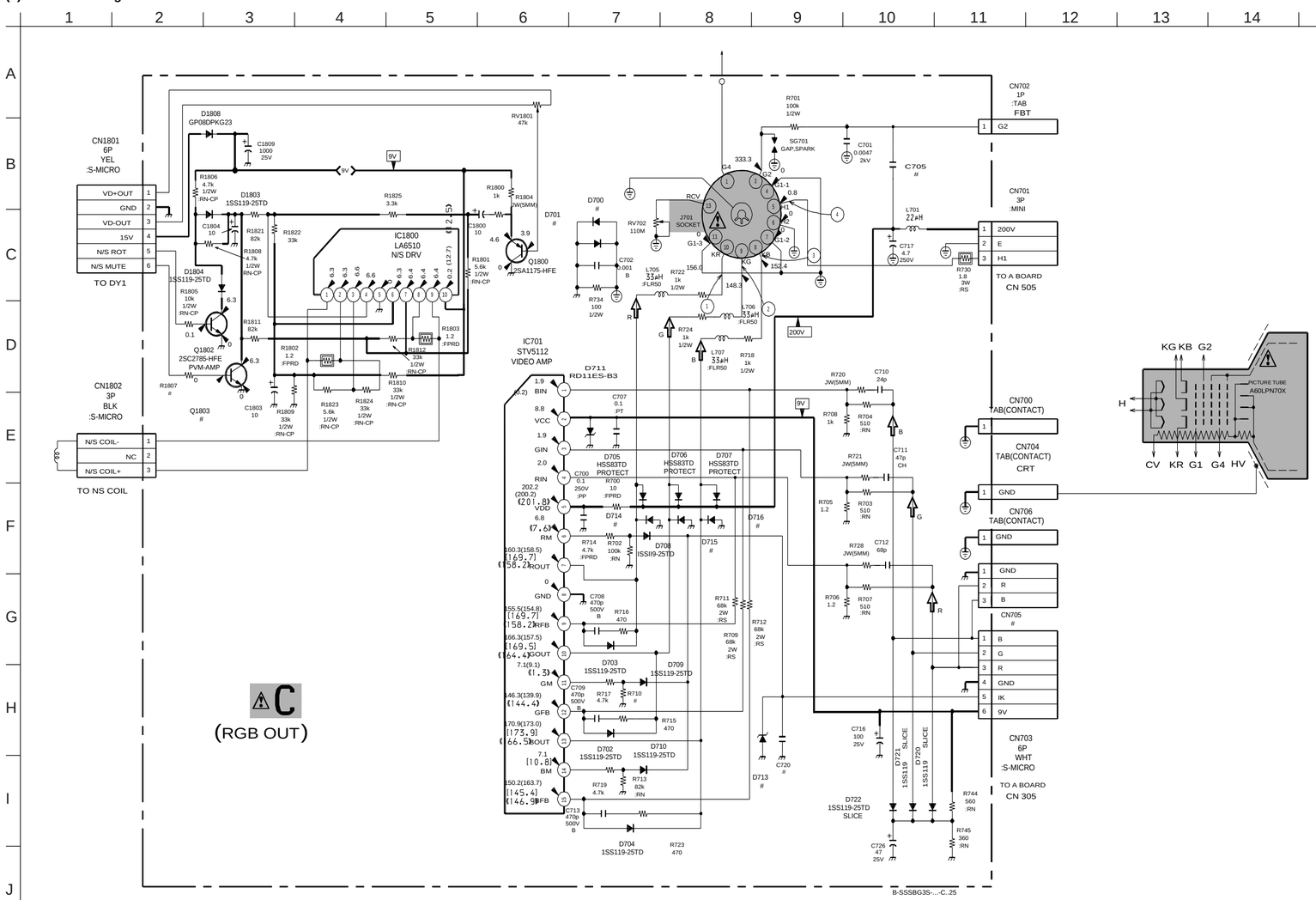
F [CISPR]

– F Board –



C BOARD WAVEFORMS

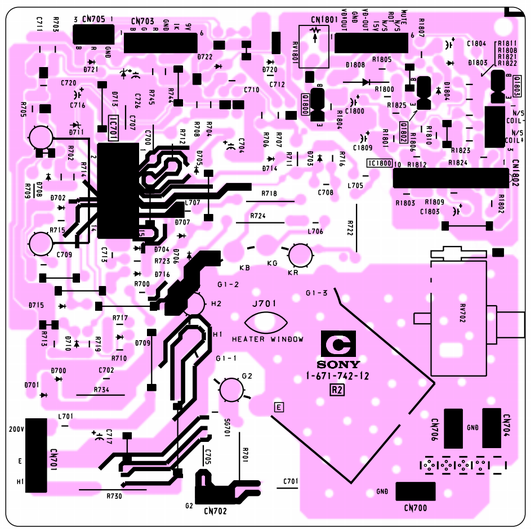
① PAL 122Vp-p (H)	① SECAM 125Vp-p (H)	① NTSC 140Vp-p (H)
② PAL/SECAM PAL : 122Vp-p (H) SECAM : 118Vp-p (H)	② NTSC 113Vp-p (H)	③ PAL/NTSC PAL : 135Vp-p (H) NTSC : 126Vp-p (H)
③ SECAM 115Vp-p (H)	④ PAL/NTSC : 23.1Vp-p (H) SECAM : 22.8Vp-p (H)	



PRINTED WIRING BOARD

C [RGB OUT]

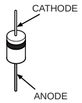
– C Board –



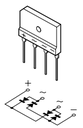
5-5. SEMICONDUCTORS

DIODE

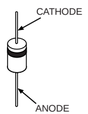
AU-01Z-V1
EL1Z
ERA22-08
GP08D
NNCD9.1A-T1
RD33EB3T
RGP02-17EL-6433



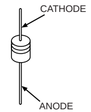
D3SB60



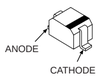
ERC04-06SE
HSS8370
RS3FS
RU4AM-T4



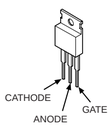
D1NS4
RD11ES-B3
RD20ES-B2
RD30ESB2
RD39ES-B2
RD6.8ES-B1
1SS119-25
11EQSO4
11ES2-7B5



DTZ-TT11-15B
DTZ10B
MA111-(K8).S0
UDZS-TE17-5.1B
UDZS-TE17-9.1B
1SS355TE-17

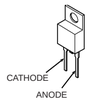


5P6M

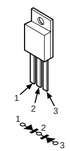


D3L60

D5S6M

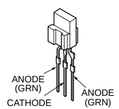


FMX-12S



LED

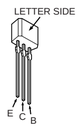
SPB-26MVWF



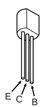
TRANSISTOR

UN2111
UN2211
UN2213
2SA1162-G
2SC2712-YG
2SD2114K

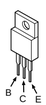
DTC144ESA
2SA1175-HFE
2SC2785-HFE



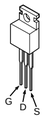
2SA1091-0



2SA1606-E
2SC4159-E

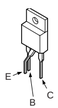


IRF614

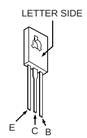


2SK246-GR

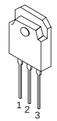
2SK2845-LB102



2SC2688-LK



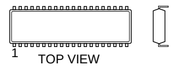
2SD2578-CA



2SC2458-YGR
2SD2144S-UVW

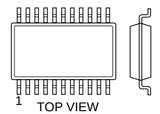
IC

CXA11315P (16PIN)
CXA1855S (48PIN)
CXA2139S (64PIN)
CXP86461-621S (64PIN)
M24C08-BN6(8PIN)
NJM2150D (20PIN)
NJM2187L (30PIN)
STV5112 (15PIN)



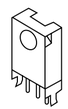
Dual In-line Package
Pin 6～98

MM1319AFBE (7PIN)
NJM2903M (8PIN)
NJU4066BM (14PIN)
TDA7315D013TR (20PIN)
µPC4558G2 (8PIN)



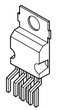
Small Out-line L-leaded Package
Pin 8～98

SBX1981-51(21)



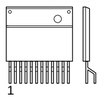
SE-135N

TDA8172



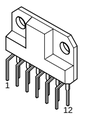
STR-F6656

MARKING SIDE VIEW

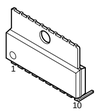


Zig-zag In -line Package
Pin 6～99

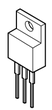
TA8200AH



LA6510



NJM7809-FA
TA7805S



KV-XF21M30/XF21M50/XF51M65
RM-952

SECTION 6
EXPLODED VIEW

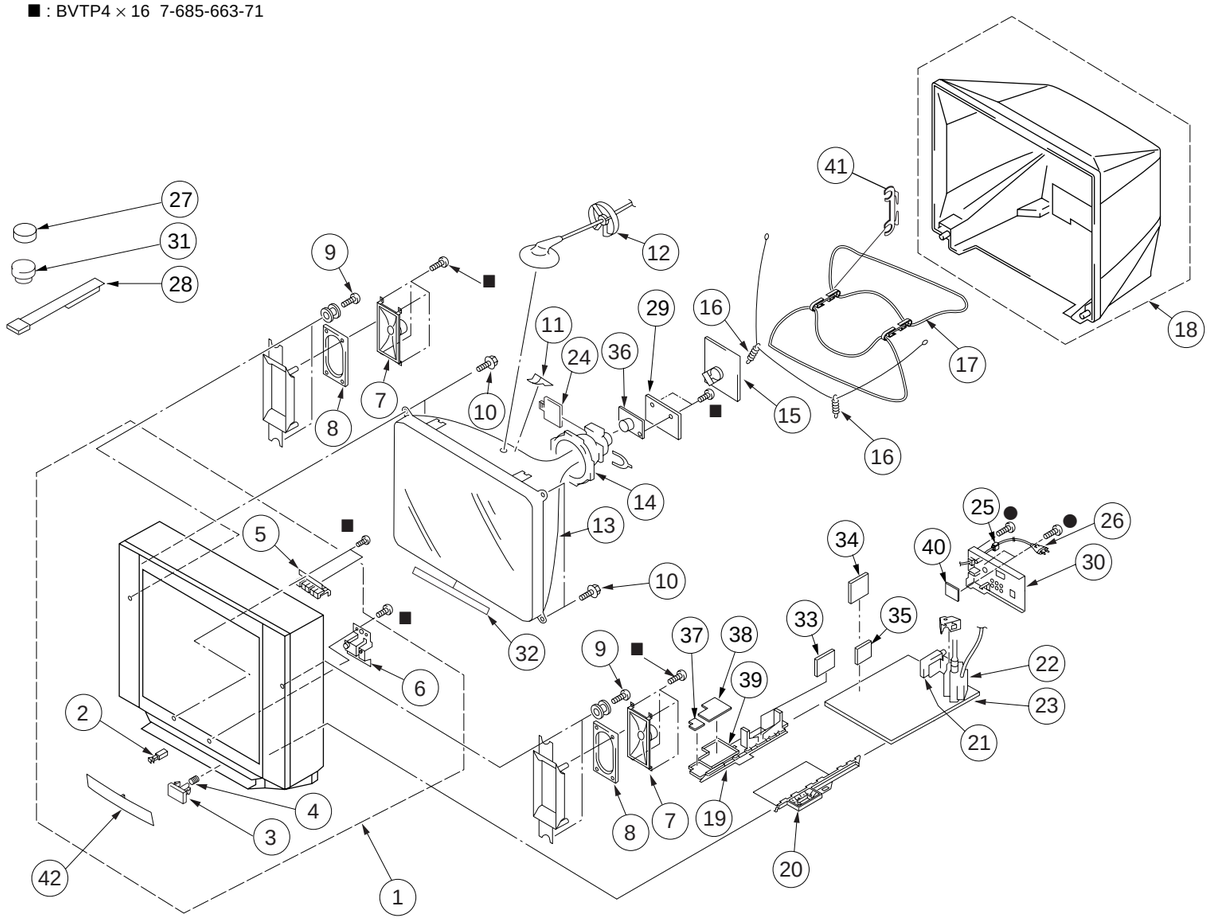
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

6-1. CHASSIS

● : BVTP3 × 12 7-685-648-79
■ : BVTP4 × 16 7-685-663-71

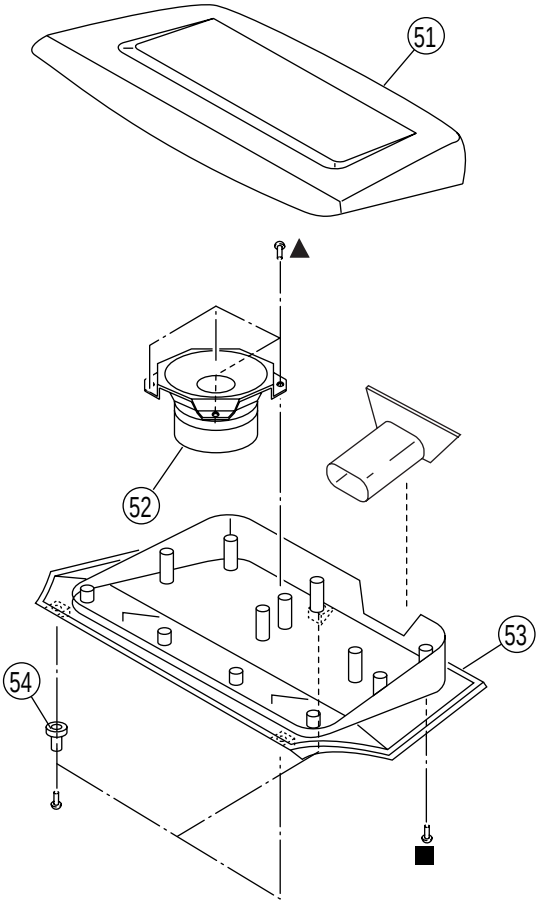


REF. NO.		PART NO.	DESCRIPTION	REMARK
1		X-4036-424-1	BEZNET ASSY (KV-XF21M30)	2-6
		X-4036-307-1	BEZNET ASSY (KV-XF21M50)	2-6
		X-4036-410-1	BEZNET ASSY (KV-XF51M65)	2-6
2		4-047-464-01	CATCHER, PUSH	
3		4-067-183-01	BUTTON, POWER	
4		4-036-405-11	SPRING, COMPRESSION	
5		4-067-181-01	BUTTON, MULTI	
6	*	4-067-180-01	GUIDE, LIGHT	
7		1-529-125-11	SPEAKER (13X7CM)	
8		4-052-433-01	CUSHION, SPEAKER	
9		4-302-404-03	SCREW (WASHER HEAD) (+P 4X16)	
10		4-365-808-01	SCREW (5), TAPPING)	
11		4-046-600-11	SPACER, DY	
12	*	3-704-372-11	HOLDER, HV CABLE	
13	⚠	8-738-812-05	PICTURE TUBE (A51LPT70X) (KV-XF21M50)	
	⚠	8-738-809-05	PICTURE TUBE (A51LPT70X) (KV-XF21M30/XF51M65)	
14		8-451-505-11	DEFLECTION YOKE (Y21RSA-S)	
15	*	A-1331-884-A	C3 BOARD, COMPLETE	
16		4-369-318-61	SPRING, TENSION	
17	⚠	1-416-946-11	COIL, DEMAGNETIC	
18	⚠	X-4036-465-1	REAR COVER ASSY	
19	*	4-067-189-01	PWB(L), GUIDE	
20	*	4-067-187-01	PWB(R), GUIDE	
21		8-598-451-00	TUNER, FSS BTF-WG441 (KV-XF21M50/XF51M65)	
		8-598-451-10	TUNER, FSS BTF-WG441 (KV-XF21M30)	
22	⚠	1-453-293-11	TRANSFORMER ASSY, FLYBACK (NX-1748//M3A4)	
23	*	A-1298-793-A	A BOARD, COMPLETE (KV-XF21M30)	
	*	A-1298-829-A	A BOARD, COMPLETE (KV-XF21M50)	
	*	A-1298-788-A	A BOARD, COMPLETE (KV-XF51M65)	
24		4-057-714-01	PIECE ASSY, TLH CORRECTION	
25		4-022-115-00	HOLDER, AC CORD	

REF. NO.		PART NO.	DESCRIPTION	REMARK
26	⚠	1-574-062-22	CORD, POWER (WITH CONNECTOR) 2.5A/250V (KV-XF21M50/XF51M65)	
	⚠	1-574-358-51	CORD, POWER (WITH CONNECTOR) 7.5A/250V (KV-XF21M30)	
27		1-452-032-00	MAGNET,DISC	
28		4-051-736-21	PIECE A(90), CONV. CORRECT	
29	*	A-1342-453-A	VM1 BOARD, COMPLETE (EXCEPT KV-XF21M63)	
30		4-067-167-01	BRACKET,TERMINAL (KV-XF21M30/XF21M50)	
		4-067-167-11	BRACKET,TERMINAL (KV-XF51M65)	
31		1-452-094-00	CIRCULAR DISC MAGNET B	
32		4-069-651-01	SHEET, BLOTTING	
33	*	A-1241-355-A	F BOARD, COMPLETE	
34	*	A-1347-155-A	V1 BOARD, COMPLETE (KV-XF51M65 ONLY)	
35	*	4-068-953-01	BRACKET, V1 (KV-XF51M65 ONLY)	
36		8-453-011-31	NA299-S2	
37	*	A-1372-601-A	H4 BOARD, COMPLETE (KV-XF51M65 ONLY)	
38	*	A-1380-606-A	K1 BOARD, COMPLETE (KV-XF51M65 ONLY)	
39	*	4-067-188-01	BRACKET,H4-K1 PCB (KV-XF51M65 ONLY)	
40	*	A-1388-241-A	J3 BOARD, COMPLETE (KV-XF51M65 ONLY)	
41		4-064-883-11	HOLDER, DGC	
42	*	X-4036-423-1	DOOR ASSY, CONTROL (KV-XF21M30)	
		X-4036-322-1	DOOR ASSY, CONTROL (KV-XF21M50)	
		X-4036-532-1	DOOR ASSY, CONTROL (KV-XF51M65)	

6-2. 3D SPEAKER (KV-XF51M65 ONLY)

▲: 7-685-661-71 SCREW BVTP 4 × 12
■: 7-685-663-71 SCREW BVTP 4 × 16



REF. NO.		PART NO.	DESCRIPTION	REMARK
51	*	4-067-201-01	3D WOOFER (UPPER)	
52		1-505-937-21	SPEAKER (10CM)	
53	*	4-067-199-01	3D WOOFER (LOWER)	
54	*	4-068-528-01	FOOT	

SECTION 7
ELECTRICAL PARTS LIST

A (KV-XF21M30 / KV-XF21M50)

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Items marked "＊" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

REF.NO.	PART NO.	DESCRIPTION			REMARK
*	A-1298-793-A	A BOARD, COMPLETE (KV-XF21M30)			
		**********			
*	A-1298-829-A	A BOARD, COMPLETE (KV-XF21M50)			
		**********			
*	4-055-304-01	HOLDER, LED			
*	4-067-182-01	HOLDER, FBT			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	4-382-854-21	SCREW (M3X14), P, SW (+)			
	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3			
		<CAPACITOR>			
C003	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C004	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C005	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C006	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C007	1-126-933-11	ELECT	100MF	20%	16V
C008	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C010	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C012	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C013	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C014	1-126-967-11	ELECT	47MF	20%	50V
C015	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C016	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C017	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C019	1-104-665-11	ELECT	100MF	20%	25V
C022	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C023	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C024	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C026	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C027	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C028	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C030	1-126-965-11	ELECT	22MF	20%	50V
C031	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C032	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C034	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C041	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C042	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C043	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C044	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C047	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C048	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C050	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C051	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C053	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C054	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C055	1-163-251-11	CERAMIC CHIP	100PF	5%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C103	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C104	1-126-933-11	ELECT	100MF	20%	16V
C107	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C108	1-126-933-11	ELECT	100MF	20%	16V
C109	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C110	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C111	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C112	1-126-933-11	ELECT	100MF	20%	16V
C113	1-126-967-11	ELECT	47MF	20%	50V
C114	1-126-967-11	ELECT	47MF	20%	50V
C202	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C203	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C204	1-136-496-81	FILM	0.082MF	5%	50V
C205	1-163-017-91	CERAMIC CHIP	0.0047MF	10%	50V
C206	1-163-017-91	CERAMIC CHIP	0.0047MF	10%	50V
C207	1-136-496-81	FILM	0.082MF	5%	50V
C208	1-126-964-91	ELECT	10MF	20%	50V
C209	1-126-964-91	ELECT	10MF	20%	50V
C210	1-126-933-11	ELECT	100MF	20%	16V
C211	1-126-941-11	ELECT	470MF	20%	25V
C212	1-126-933-11	ELECT	100MF	20%	16V
C213	1-126-933-11	ELECT	100MF	20%	16V
C214	1-126-942-61	ELECT	1000MF	20%	25V
C215	1-126-942-61	ELECT	1000MF	20%	25V
C216	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C217	1-126-964-11	ELECT	10MF	20%	50V
C218	1-136-167-00	FILM	0.15MF	5%	50V
C219	1-136-167-00	FILM	0.15MF	5%	50V
C220	1-126-942-61	ELECT	1000MF	20%	25V
C221	1-126-964-11	ELECT	10MF	20%	50V
C223	1-126-965-11	ELECT	22MF	20%	50V
C224	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C225	1-109-982-11	CERAMIC CHIP	1MF	10%	10V
C226	1-109-982-11	CERAMIC CHIP	1MF	10%	10V
C227	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C228	1-163-024-00	CERAMIC CHIP	0.018MF	10%	50V
C229	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V
C230	1-163-024-00	CERAMIC CHIP	0.018MF	10%	50V
C231	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V
C232	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C233	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C234	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C235	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C236	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C238	1-164-505-11	CERAMIC CHIP	2.2MF		16V

A (KV-XF21M30 KV-XF21M50)

REF. NO.	PART NO.	DESCRIPTION			REMARK
C240	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C241	1-164-346-11	CERAMIC CHIP	1MF		16V
C242	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C243	1-216-295-91	SHORT	0		
C244	1-164-700-11	CERAMIC CHIP	0.68MF		16V
C245	1-164-346-11	CERAMIC CHIP	1MF		16V
C246	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V
C247	1-164-346-11	CERAMIC CHIP	1MF		16V
C248	1-163-010-11	CERAMIC CHIP	0.0012MF	10%	50V
C249	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C250	1-216-295-91	SHORT	0		
C251	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C252	1-164-346-11	CERAMIC CHIP	1MF		16V
C253	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C254	1-126-965-11	ELECT	22MF	20%	50V
C255	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C256	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C259	1-126-933-11	ELECT	100MF	20%	16V
C264	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C265	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C301	1-126-935-11	ELECT	470MF	20%	16V
C302	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C303	1-126-964-11	ELECT	10MF	20%	50V
C304	1-126-967-11	ELECT	47MF	20%	50V
C305	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C306	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C307	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C308	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C309	1-126-957-11	ELECT	0.22MF	20%	50V
C310	1-126-963-11	ELECT	4.7MF	20%	50V
C311	1-126-964-11	ELECT	10MF	20%	50V
C312	1-164-346-11	CERAMIC CHIP	1MF		16V
C313	1-164-346-11	CERAMIC CHIP	1MF		16V
C315	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C316	1-126-967-11	ELECT	47MF	20%	50V
C317	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C318	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C319	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C320	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C322	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C323	1-126-965-11	ELECT	22MF	20%	50V
C324	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C325	1-126-960-11	ELECT	1MF	20%	50V
C327	1-126-965-11	ELECT	22MF	20%	50V
C328	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C329	1-126-965-11	ELECT	22MF	20%	50V
C330	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C331	1-247-807-31	CARBON	100	5%	1/4W
C332	1-126-963-11	ELECT	4.7MF	20%	50V
C335	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C336	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C337	1-126-961-11	ELECT	2.2MF	20%	50V
C338	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C341	1-115-340-11	CERAMIC CHIP	0.22MF	10%	25V
C342	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C401	1-164-346-11	CERAMIC CHIP	1MF		16V
C402	1-164-346-11	CERAMIC CHIP	1MF		16V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C403	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C404	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C405	1-126-935-11	ELECT	470MF	20%	16V
C406	1-164-346-11	CERAMIC CHIP	1MF		16V
C407	1-164-346-11	CERAMIC CHIP	1MF		16V
C408	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C409	1-126-963-11	ELECT	4.7MF	20%	50V
C415	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C502	1-163-145-00	CERAMIC CHIP	0.0015MF	5%	50V
C506	1-107-638-11	ELECT	33MF	20%	160V
C507	1-161-830-00	CERAMIC	0.0047MF		500V
C510	1-102-112-00	CERAMIC	330PF	10%	50V
C512	1-163-989-91	CERAMIC CHIP	33000PF (KV-XF21M30 only)		
C513	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C514	1-106-383-00	MYLAR	0.047MF	10%	200V
C517	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C518	1-126-933-11	ELECT	100MF	20%	16V
C519	1-102-212-00	CERAMIC	820PF	10%	500V
C521	1-104-666-11	ELECT	220MF	20%	25V
C522	1-126-933-11	ELECT	100MF	20%	16V
C523	1-102-002-00	CERAMIC	680PF	10%	500V
C524	1-126-967-11	ELECT	47MF	20%	50V
C526	1-130-495-00	MYLAR	0.1MF	5%	50V
C527	1-102-820-00	CERAMIC	330PF	5%	50V
C528	1-162-134-11	CERAMIC	470PF	10%	2KV
C530	1-137-372-11	FILM	0.022MF	5%	50V
C531	1-109-953-11	ELECT	2.2MF	20%	50V
C532	1-128-528-11	ELECT	470MF	20%	25V
C533	1-128-528-11	ELECT	470MF	20%	25V
C536	1-136-165-00	FILM	0.1MF	5%	50V
C537	1-107-911-11	ELECT	220MF	20%	50V
C538	1-136-076-00	FILM	0.0085MF	3%	2KV
C539	1-129-746-91	FILM	0.039MF	5%	400V
C540	1-136-171-00	FILM	0.33MF	5%	50V
C546	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C549	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C550	1-106-220-00	MYLAR	0.1MF	10%	100V
C551	1-126-960-11	ELECT	1MF	20%	50V
C552	1-162-116-00	CERAMIC	680PF	10%	2KV
C553	1-162-116-00	CERAMIC	680PF	10%	2KV
C554	1-137-417-11	MYLAR	0.0047MF	10%	200V
C556	1-128-528-11	ELECT	470MF	20%	25V
C557	1-126-941-11	ELECT	470MF	20%	25V
C558	1-123-024-21	ELECT	33MF		160V
C560	1-102-228-00	CERAMIC	470PF	10%	500V
C561	1-136-557-11	FILM	0.0033MF	5%	630V
C562	1-102-228-00	CERAMIC	470PF	10%	500V
C564	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C565	1-107-655-11	ELECT	47MF	20%	250V
C566	1-102-244-00	CERAMIC	220PF	10%	500V
C567	1-115-521-11	FILM	0.82MF	5%	250V
C568	1-102-228-00	CERAMIC	470PF	10%	500V
C570	1-115-520-11	FILM	0.68MF	5%	250V
C571	1-126-959-11	ELECT	0.47MF	20%	50V
C573	1-106-379-12	MYLAR	0.033MF	10%	200V
C574	1-107-636-11	ELECT	10MF	20%	160V

A (KV-XF21M30 KV-XF21M50)

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF. NO.		PART NO.	DESCRIPTION			REMARK
C576		1-130-495-00	MYLAR	0.1MF	5%	50V
C577		1-106-395-00	MYLAR	0.15MF	10%	200V
C579		1-102-038-00	CERAMIC	0.001MF		500V
C582		1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C600	⚠	1-104-705-51	FILM	0.1MF	20%	250V
C604		1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C605	⚠	1-127-942-51	CERAMIC	330PF	10%	250V
C606	⚠	1-127-942-51	CERAMIC	330PF	10%	250V
C607		1-161-830-00	CERAMIC	0.0047MF	99%	500V
C608		1-161-830-00	CERAMIC	0.0047MF	99%	500V
C609		1-126-968-11	ELECT	100MF	20%	50V
C610		1-126-964-11	ELECT	10MF	20%	50V
C611		1-161-830-00	CERAMIC	0.0047MF	99%	500V
C612		1-161-830-00	CERAMIC	0.0047MF	99%	500V
C613		1-117-752-11	ELECT(BLOCK)	330MF	20%	450V
C614		1-126-964-11	ELECT	10MF	20%	50V
C616		1-130-202-00	FILM	0.022MF	10%	400V
C617		1-107-792-11	CERAMIC	100PF	5%	1KV
C618		1-125-893-11	FILM	680PF	3%	1.5KV
C619		1-119-886-51	CERAMIC	470PF	10%	250V
C620		1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C621		1-102-114-00	CERAMIC	470PF	10%	50V
C622		1-102-074-00	CERAMIC	0.001MF	10%	50V
C623		1-104-665-11	ELECT	100MF	20%	25V
C624		1-104-331-11	CERAMIC	0.0022MF	10%	1KV
C627		1-102-002-00	CERAMIC	680PF	10%	500V
C628		1-126-942-61	ELECT	1000MF	20%	25V
C629		1-126-964-11	ELECT	10MF	20%	50V
C630		1-124-347-00	ELECT	100MF	20%	160V
C633		1-104-999-11	MYLAR	0.1MF	10%	200V
C634		1-126-934-11	ELECT	220MF	20%	16V
C635		1-104-665-11	ELECT	100MF	20%	10V
C636		1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C639		1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C640		1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C641		1-102-002-00	CERAMIC	680PF	10%	500V
C642		1-126-943-11	ELECT	2200MF	20%	25V
C643		1-126-933-11	ELECT	100MF	20%	16V
C644		1-104-331-11	CERAMIC	0.0022MF	10%	1KV
C645		1-137-605-11	FILM	0.01MF	10%	250V
C646		1-107-679-91	ELECT	10MF	20%	450V
C647		1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C649		1-126-940-11	ELECT	330MF	20%	25V
C650		1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C651		1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C652		1-126-965-11	ELECT	22MF	20%	50V
C653		1-126-967-11	ELECT	47MF	20%	50V
C657		1-101-821-00	CERAMIC	0.0022MF		500V
C658		1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C901		1-136-153-00	FILM	0.01MF	5%	50V
C902		1-136-153-00	FILM	0.01MF	5%	50V
C905		1-126-963-11	ELECT	4.7MF	20%	50V
C906		1-164-346-11	CERAMIC CHIP	1MF		16V
C907		1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C908		1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C909		1-164-346-11	CERAMIC CHIP	1MF		16V
C910		1-126-967-11	ELECT	47MF	20%	50V
C911		1-126-967-11	ELECT	47MF	20%	50V
C912		1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C913		1-126-933-11	ELECT	100MF	20%	16V
C914		1-163-133-00	CERAMIC CHIP	470PF	5%	50V
			<CONNECTOR>			
CN104		1-695-915-11	TAB (CONTACT)			
CN202	*	1-785-608-11	PIN, CONNECTOR 4P			
CN203	*	1-564-506-11	PLUG, CONNECTOR 3P			
CN204	*	1-564-506-11	PLUG, CONNECTOR 3P			
CN305	*	1-564-509-11	PLUG, CONNECTOR 6P			
CN306	*	1-564-510-11	PLUG, CONNECTOR 7P			
CN505		1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P			
CN506		4-352-844-01	PIN, LEAD, COATING			
CN601	*	1-580-843-11	PIN, CONNECTOR (POWER)			
CN602	*	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
CN604	*	1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P			
CN609	*	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN901	*	1-564-507-51	PLUG, CONNECTOR 4P			
			<COMPOSITION CIRCUIT BLOCK>			
CP301		1-467-554-21	FILTER BLOCK, COMB			
			<DIODE>			
D001		8-719-988-61	DIODE 1SS355TE-17			
D005		8-719-988-61	DIODE 1SS355TE-17			
D006		8-719-988-61	DIODE 1SS355TE-17			
D027		1-216-073-00	RES,CHIP	10K	5%	1/10W
D048		1-216-073-00	RES,CHIP	10K	5%	1/10W
D050		1-216-073-00	RES,CHIP	10K	5%	1/10W
D055		1-216-073-00	RES,CHIP	10K	5%	1/10W
D056		1-216-073-00	RES,CHIP	10K	5%	1/10W
D100		8-719-404-50	DIODE MA111-TX (KV-XF21M30 only)			
D203		8-719-914-42	DIODE DA204K			
D213		1-216-073-00	RES,CHIP	10K	5%	1/10W
D214		1-216-073-00	RES,CHIP	10K	5%	1/10W
D229		1-216-073-00	RES,CHIP	10K	5%	1/10W
D300		1-216-295-91	SHORT	0		
D301		8-719-988-61	DIODE 1SS355TE-17			
D304		1-216-073-00	RES,CHIP	10K	5%	1/10W
D306		8-719-988-61	DIODE 1SS355TE-17			
D307		8-719-988-61	DIODE 1SS355TE-17			
D308		8-719-988-61	DIODE 1SS355TE-17			
D309		8-719-159-10	DIODE RD5.1SB-T2			
D311		8-719-988-61	DIODE 1SS355TE-17			
D312		8-719-988-61	DIODE 1SS355TE-17			
D313		8-719-988-61	DIODE 1SS355TE-17			
D314		8-719-988-61	DIODE 1SS355TE-17			
D315		8-719-988-61	DIODE 1SS355TE-17			
D316		8-719-069-57	DIODE UDZS-TE17-6.8B			
D321		1-216-073-00	RES,CHIP	10K	5%	1/10W
D333		1-216-073-00	RES,CHIP	10K	5%	1/10W
D349		1-216-073-00	RES,CHIP	10K	5%	1/10W
D361		1-216-073-00	RES,CHIP	10K	5%	1/10W

A (KV-XF21M30 KV-XF21M50)

REF. NO.	PART NO.	DESCRIPTION	REMARK
D366	1-216-073-00	RES,CHIP 10K 5% 1/10W	
D367	1-216-073-00	RES,CHIP 10K 5% 1/10W	
D401	8-719-158-35	DIODE RD9.1SB	
D402	8-719-158-35	DIODE RD9.1SB	
D403	8-719-158-35	DIODE RD9.1SB	
D404	8-719-158-35	DIODE RD9.1SB	
D405	8-719-158-35	DIODE RD9.1SB	
D406	8-719-158-35	DIODE RD9.1SB	
D504	8-719-302-43	DIODE EL1Z	
D505	8-719-988-61	DIODE 1SS355TE-17	
D506	8-719-911-19	DIODE 1SS119-25	
D507	8-719-988-61	DIODE 1SS355TE-17	
D508	8-719-988-61	DIODE 1SS355TE-17	
D509	1-216-073-00	RES,CHIP 10K 5% 1/10W	
D510	8-719-988-61	DIODE 1SS355TE-17	
D511	8-719-988-61	DIODE 1SS355TE-17	
D512	8-719-988-61	DIODE 1SS355TE-17	
D513	8-719-908-03	DIODE GP08D	
D517	8-719-945-80	DIODE ERC06-15S	
D518	8-719-900-26	DIODE ERD29-08J	
D520	1-216-295-91	SHORT 0	
D521	8-719-302-43	DIODE EL1Z	
D522	8-719-302-43	DIODE EL1Z	
D523	8-719-302-43	DIODE EL1Z	
D525	8-719-911-19	DIODE 1SS119-25	
D526	8-719-150-92	DIODE RD33EB3T	
D527	8-719-908-03	DIODE GP08D	
D528	8-719-908-03	DIODE GP08D	
D529	8-719-028-72	DIODE RGP02-17EL-6433	
D531	8-719-988-61	DIODE 1SS355TE-17	
D532	8-719-988-61	DIODE 1SS355TE-17	
D560	1-216-073-00	RES,CHIP 10K 5% 1/10W	
D565	1-216-073-00	RES,CHIP 10K 5% 1/10W	
D602	8-719-911-19	DIODE 1SS119-25	
D603	8-719-150-92	DIODE RD33EB3T	
D604	8-719-028-72	DIODE RGP02-17EL-6433	
D605	8-719-510-53	DIODE D4SB60L	
D606	8-719-108-18	THYRISTOR 5P6M	
D607	8-719-404-50	DIODE MA111-TX	
D608	8-719-110-53	DIODE RD20ESB2	
D609	8-719-311-31	DIODE RU-1P	
D610	8-719-043-76	DIODE AK04V0	
D611	8-719-046-74	DIODE AU-01Z-V1	
D613	8-719-046-74	DIODE AU-01Z-V1	
D614	8-719-046-74	DIODE AU-01Z-V1	
D618	8-719-067-18	DIODE RN4Z	
D620	8-719-110-72	DIODE RD30ESB2	
D622	8-719-071-39	DIODE FMU-G26S	
D623	8-719-978-65	DIODE DTZ-TT11-15B	
D624	8-719-404-50	DIODE MA111-TX	
D625	8-719-158-39	DIODE RD10SB	
D627	8-719-073-84	DIODE 31DQ06-FC5	
D628	8-719-911-19	DIODE 1SS119-25	
D631	8-719-068-00	DIODE ERC04-06SE	
D632	8-719-068-00	DIODE ERC04-06SE	
D633	8-719-948-45	DIODE ERA22-08	
D634	8-719-404-50	DIODE MA111-TX	
D635	8-719-404-50	DIODE MA111-TX	
D636	8-719-510-02	DIODE D1NS4	
D637	8-719-109-96	DIODE RD6.8ESB1	
D638	8-719-510-48	DIODE D1N20R	
D660	1-216-073-00	RES,CHIP 10K 5% 1/10W	
D901	8-719-158-35	DIODE RD9.1SB	
D902	8-719-158-35	DIODE RD9.1SB	
D903	8-719-158-35	DIODE RD9.1SB	
D904	8-719-158-35	DIODE RD9.1SB	
D905	8-719-158-35	DIODE RD9.1SB	
D906	8-719-045-19	DIODE SPB-26MVWF	
		<CONNECTOR>	
DY1	* 1-580-798-11	CONNECTOR PIN (DY) 6P	
		<FERRITE BEAD>	
FB103	1-410-397-21	FERRITE 1.1UH	
FB501	1-410-397-21	FERRITE 1.1UH	
FB502	1-410-397-21	FERRITE 1.1UH	
FB600	1-410-397-21	FERRITE 1.1UH	
FB601	1-410-397-21	FERRITE 1.1UH	
FB602	1-410-397-21	FERRITE 1.1UH	
FB603	1-410-397-21	FERRITE 1.1UH	
FB604	1-410-397-21	FERRITE 1.1UH	
FB607	1-410-397-21	FERRITE 1.1UH	
FB608	1-412-911-31	FERRITE 0UH	
FB611	1-410-397-21	FERRITE 1.1UH	
FB613	1-410-397-21	FERRITE 1.1UH	
FB615	1-410-397-21	FERRITE 1.1UH	
		<IC>	
IC001	8-752-904-20	IC CXP86449-611S	
IC002	8-759-371-21	IC MM1319AFBE	
IC003	8-759-370-34	IC ST24C08FB6	
IC100	8-759-042-02	IC S-80743AL-A7-S (KV-XF21M30 only)	
IC201	8-759-336-30	IC TA8223K	
IC203	8-759-553-40	IC TDA7429S	
IC301	8-752-088-39	IC CXA2130S	
IC502	8-759-700-07	IC NJM2903M	
IC503	8-759-980-58	IC TDA8172	
IC601	8-749-013-75	IC STR-F6654	
IC602	8-749-920-61	IC SE-135N	
IC603	8-759-701-59	IC NJM78M09FA	
IC604	8-759-231-53	IC TA7805S	
IC901	8-742-041-12	HYB IC SBX1981-11(12)	
		<JACK>	
J401	1-779-850-11	JACK BLOCK, PIN 6P	
J901	1-770-786-11	JACK	
J902	1-770-329-11	JACK, PIN 3P	

A (KV-XF21M30 KV-XF21M50)

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK
		<CHIP CONDUCTOR>	
JR002	1-216-295-91	SHORT 0	
JR003	1-216-295-91	SHORT 0	
JR004	1-216-295-91	SHORT 0	
JR005	1-216-295-91	SHORT 0	
JR006	1-216-295-91	SHORT 0	
JR007	1-216-295-91	SHORT 0	
JR008	1-216-295-91	SHORT 0	
JR009	1-216-295-91	SHORT 0	
JR010	1-216-295-91	SHORT 0	
JR011	1-216-295-91	SHORT 0	
JR012	1-216-295-91	SHORT 0	
JR013	1-216-295-91	SHORT 0	
JR014	1-216-295-91	SHORT 0	
JR015	1-216-295-91	SHORT 0	
JR016	1-216-295-91	SHORT 0	
JR018	1-216-295-91	SHORT 0	
JR019	1-216-295-91	SHORT 0	
JR102	1-216-295-91	SHORT 0	
JR107	1-216-295-91	SHORT 0 (KV-XF21M30 only)	
JR109	1-216-295-91	SHORT 0 (KV-XF21M50 only)	
JR202	1-216-295-91	SHORT 0	
JR301	1-216-295-91	SHORT 0	
JR303	1-216-295-91	SHORT 0	
JR401	1-216-295-91	SHORT 0	
JR403	1-216-295-91	SHORT 0	
JR404	1-216-295-91	SHORT 0	
JR405	1-216-295-91	SHORT 0	
JR500	1-216-295-91	SHORT 0	
JR501	1-216-295-91	SHORT 0	
JR600	1-216-295-91	SHORT 0	
		<COIL>	
L002	1-414-856-11	INDUCTOR 10UH	
L003	1-414-180-11	INDUCTOR 3.3UH	
L005	1-414-233-22	INDUCTOR CHIP 0UH	
L101	1-414-856-11	INDUCTOR 10UH	
L102	1-414-856-11	INDUCTOR 10UH	
L103	1-414-856-11	INDUCTOR 10UH	
L104	1-414-856-11	INDUCTOR 10UH	
L105	1-414-856-11	INDUCTOR 10UH	
L204	1-414-856-11	INDUCTOR 10UH	
L301	1-414-189-31	INDUCTOR 100UH	
L302	1-414-185-41	INDUCTOR 22UH	
L501	1-412-525-31	INDUCTOR 10UH	
L502	1-422-613-11	COIL, AIR CORE	
L503	1-412-525-31	INDUCTOR 10UH	
L504	1-412-525-31	INDUCTOR 10UH	
L505	1-412-525-31	INDUCTOR 10UH	
L506	1-412-525-31	INDUCTOR 10UH	
L507	1-459-111-00	INDUCTOR 10MMH	
L508	1-412-525-31	INDUCTOR 10UH	
L509	1-459-390-00	INDUCTOR 390UH	
L510	1-416-972-11	COIL, HORIZONTAL LINEARITY	
L510	1-459-769-13	COIL, HORIZONTAL LINEARITY	
L512	1-412-549-31	INDUCTOR 1MMH	
L513	1-412-549-31	INDUCTOR 1MMH	
L515	1-459-104-00	COIL, WITH CORE	
L518	1-408-611-31	INDUCTOR 47UH	
L601	1-412-527-11	INDUCTOR 15UH	
L901	1-408-603-31	INDUCTOR 10UH	
L902	1-408-603-31	INDUCTOR 10UH	
L905	1-414-856-11	INDUCTOR 10UH	
		<PHOTO COUPLER>	
PH600 ⚠	8-749-924-35	PHOTO COUPLER ON3171-R	
		<IC LINK>	
PS200	1-532-675-21	LINK, IC 1.5A/150V	
		<TRANSISTOR>	
Q002	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q003	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q004	8-729-900-53	TRANSISTOR DTC114EK	
Q101	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q201	8-729-424-67	TRANSISTOR UN2216	
Q202	8-729-424-67	TRANSISTOR UN2216	
Q203	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q204	8-729-216-22	TRANSISTOR 2SA1162-G	
Q205	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q206	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q207	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q301	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q302	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q303	8-729-216-22	TRANSISTOR 2SA1162-G	
Q305	8-729-216-22	TRANSISTOR 2SA1162-G	
Q306	8-729-216-22	TRANSISTOR 2SA1162-G	
Q307	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q308	8-729-216-22	TRANSISTOR 2SA1162-G	
Q312	8-729-216-22	TRANSISTOR 2SA1162-G	
Q313	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q315	1-801-806-11	TRANSISTOR DTC144EK-T146	
Q401	8-729-424-67	TRANSISTOR UN2216	
Q402	8-729-424-67	TRANSISTOR UN2216	
Q403	8-729-216-22	TRANSISTOR 2SA1162-G	
Q404	8-729-216-22	TRANSISTOR 2SA1162-G	
Q503	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q505	8-729-931-45	TRANSISTOR IRF614	
Q506	8-729-140-96	TRANSISTOR 2SD774-34	
Q507	8-729-216-22	TRANSISTOR 2SA1162-G	
Q509	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q511	8-729-016-32	TRANSISTOR 2SC4927-01	
Q601	8-729-023-22	TRANSISTOR 2SD2114K	
Q602	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q603	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q604	8-729-200-17	TRANSISTOR 2SA1091-O	
Q605	8-729-044-30	TRANSISTOR 2SK2845-LB102	
Q606	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q607	8-729-922-37	TRANSISTOR 2SD2144S-UVW	
Q608	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q901	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q902	1-801-806-11	TRANSISTOR DTC144EKA-T146	

A (KV-XF21M30 KV-XF21M50)

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<RESISTOR>			
R001	1-414-233-22	INDUCTOR CHIP	0UH		
R002	1-216-025-91	RES,CHIP	100	5%	1/10W
R003	1-216-295-91	SHORT	0		
R004	1-216-025-91	RES,CHIP	100	5%	1/10W
R005	1-216-025-91	RES,CHIP	100	5%	1/10W
R007	1-216-295-91	SHORT	0		
R008	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R010	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R011	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R012	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R013	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R014	1-216-025-91	RES,CHIP	100	5%	1/10W
R015	1-216-025-91	RES,CHIP	100	5%	1/10W
R016	1-216-025-91	RES,CHIP	100	5%	1/10W
R017	1-216-049-91	RES,CHIP	1K	5%	1/10W
R018	1-216-033-00	RES,CHIP	220	5%	1/10W
R022	1-216-033-00	RES,CHIP	220	5%	1/10W
R024	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R025	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R026	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R028	1-216-073-91	RES,CHIP (KV-XF21M30 only)	10K	5%	1/10W
R029	1-216-049-91	RES,CHIP	1K	5%	1/10W
R031	1-216-049-91	RES,CHIP	1K	5%	1/10W
R035	1-216-025-91	RES,CHIP	100	5%	1/10W
R036	1-216-025-91	RES,CHIP	100	5%	1/10W
R037	1-216-025-91	RES,CHIP	100	5%	1/10W
R040	1-216-025-91	RES,CHIP	100	5%	1/10W
R041	1-216-025-91	RES,CHIP	100	5%	1/10W
R042	1-216-295-91	SHORT	0		
R043	1-216-025-91	RES,CHIP	100	5%	1/10W
R044	1-216-025-91	RES,CHIP	100	5%	1/10W
R045	1-414-233-22	INDUCTOR CHIP	0UH		
R046	1-216-049-91	RES,CHIP	1K	5%	1/10W
R047	1-414-233-22	INDUCTOR CHIP	0UH		
R053	1-216-049-91	RES,CHIP	1K	5%	1/10W
R061	1-216-033-00	RES,CHIP	220	5%	1/10W
R062	1-216-041-00	RES,CHIP	470	5%	1/10W
R063	1-216-037-00	RES,CHIP	330	5%	1/10W
R064	1-216-037-00	RES,CHIP	330	5%	1/10W
R065	1-216-037-00	RES,CHIP	330	5%	1/10W
R066	1-216-049-91	RES,CHIP	1K	5%	1/10W
R101	1-216-025-91	RES,CHIP (KV-XF21M30 only)	100	5%	1/10W
R102	1-216-025-91	RES,CHIP (KV-XF21M30 only)	100	5%	1/10W
R105	1-216-295-91	SHORT	0		
R109	1-216-041-00	RES,CHIP	470	5%	1/10W
R111	1-216-025-91	RES,CHIP	100	5%	1/10W
R112	1-216-025-91	RES,CHIP	100	5%	1/10W
R113	1-216-047-91	RES,CHIP	820	5%	1/10W
R202	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R203	1-216-057-91	RES,CHIP	2.2K	5%	1/10W
R204	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R205	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R206	1-216-057-91	RES,CHIP	2.2K	5%	1/10W
R207	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R208	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R209	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R210	1-216-029-91	RES,CHIP	150	5%	1/10W
R212	1-216-029-91	RES,CHIP	150	5%	1/10W
R215	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R216	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R217	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R218	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R219	1-216-025-91	RES,CHIP	100	5%	1/10W
R220	1-216-025-91	RES,CHIP	100	5%	1/10W
R221	1-216-295-91	SHORT	0		
R222	1-216-295-91	SHORT	0		
R225	1-216-033-00	RES,CHIP	220	5%	1/10W
R226	1-216-033-00	RES,CHIP	220	5%	1/10W
R227	1-216-033-00	RES,CHIP	220	5%	1/10W
R228	1-249-389-11	CARBON	4.7	5%	1/4W
R230	1-216-069-91	RES,CHIP	6.8K	5%	1/10W
R231	1-216-295-91	SHORT	0		
R234	1-249-389-11	CARBON	4.7	5%	1/4W
R235	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R236	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R237	1-216-308-00	RES,CHIP	4.7	5%	1/10W
R302	1-216-295-91	SHORT	0		
R303	1-216-049-91	RES,CHIP	1K	5%	1/10W
R305	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R307	1-216-025-91	RES,CHIP	100	5%	1/10W
R308	1-216-025-91	RES,CHIP	100	5%	1/10W
R309	1-216-025-91	RES,CHIP	100	5%	1/10W
R310	1-216-025-91	RES,CHIP	100	5%	1/10W
R311	1-216-017-91	RES,CHIP	47	5%	1/10W
R312	1-216-041-00	RES,CHIP	470	5%	1/10W
R313	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R314	1-216-045-00	RES,CHIP	680	5%	1/10W
R316	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R317	1-216-077-00	RES,CHIP	15K	5%	1/10W
R318	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R319	1-216-025-91	RES,CHIP	100	5%	1/10W
R320	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R322	1-216-033-00	RES,CHIP	220	5%	1/10W
R326	1-216-295-91	SHORT	0		
R327	1-216-033-00	RES,CHIP	220	5%	1/10W
R331	1-216-295-91	SHORT	0		
R332	1-216-033-00	RES,CHIP	220	5%	1/10W
R334	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R335	1-216-045-00	RES,CHIP	680	5%	1/10W
R338	1-216-033-00	RES,CHIP	220	5%	1/10W
R340	1-216-025-91	RES,CHIP	100	5%	1/10W
R345	1-216-081-00	RES,CHIP	22K	5%	1/10W
R346	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R347	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R348	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R350	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R351	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R354	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R355	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R356	1-216-057-00	RES,CHIP	2.2K	5%	1/10W

A (KV-XF21M30 KV-XF21M50)

REF. NO.	PART NO.	DESCRIPTION			REMARK
R357	1-216-079-00	RES,CHIP	18K	5%	1/10W
R358	1-216-049-91	RES,CHIP	1K	5%	1/10W
R359	1-216-033-00	RES,CHIP	220	5%	1/10W
R360	1-216-033-00	RES,CHIP	220	5%	1/10W
R362	1-216-075-00	RES,CHIP	12K	5%	1/10W
R363	1-216-079-00	RES,CHIP	18K	5%	1/10W
R364	1-216-295-91	SHORT	0		
R365	1-216-033-00	RES,CHIP	220	5%	1/10W
R370	1-216-033-00	RES,CHIP	220	5%	1/10W
R376	1-216-081-00	RES,CHIP	22K	5%	1/10W
R377	1-216-121-91	RES,CHIP	1M	5%	1/10W
R378	1-216-031-00	RES,CHIP	180	5%	1/10W
R401	1-216-049-91	RES,CHIP	1K	5%	1/10W
R402	1-216-073-00	RES,CHIP	10K	5%	1/10W
R403	1-216-073-00	RES,CHIP	10K	5%	1/10W
R405	1-216-049-91	RES,CHIP	1K	5%	1/10W
R407	1-216-049-91	RES,CHIP	1K	5%	1/10W
R408	1-216-049-91	RES,CHIP	1K	5%	1/10W
R409	1-216-041-00	RES,CHIP	470	5%	1/10W
R410	1-216-113-00	RES,CHIP	470K	5%	1/10W
R411	1-216-113-00	RES,CHIP	470K	5%	1/10W
R412	1-216-041-00	RES,CHIP	470	5%	1/10W
R413	1-216-021-00	RES,CHIP	68	5%	1/10W
R414	1-216-113-00	RES,CHIP	470K	5%	1/10W
R415	1-216-113-00	RES,CHIP	470K	5%	1/10W
R416	1-216-077-00	RES,CHIP	15K	5%	1/10W
R417	1-216-077-00	RES,CHIP	15K	5%	1/10W
R418	1-216-113-00	RES,CHIP	470K	5%	1/10W
R419	1-216-022-00	RES,CHIP	75	5%	1/10W
R426	1-216-033-00	RES,CHIP	220	5%	1/10W
R505	1-216-101-00	RES,CHIP	150K	5%	1/10W
R506	1-216-085-00	RES,CHIP	33K	5%	1/10W
R507	1-249-389-11	CARBON	4.7	5%	1/4W F
R508	1-215-910-00	METAL OXIDE	68	5%	3W F
R509	1-215-911-11	METAL OXIDE	100	5%	3W F
R510	1-215-885-00	METAL OXIDE	68	5%	2W F
R511	1-215-911-11	METAL OXIDE	100	5%	3W F
R512	1-249-432-11	CARBON	18K	5%	1/4W
R513	1-215-485-00	METAL	470K	1%	1/4W
R514	1-215-487-00	METAL	560K	1%	1/4W
R516	1-216-081-00	RES,CHIP	22K	5%	1/10W
R518	1-247-807-31	CARBON	100	5%	1/4W
R520	1-215-445-00	METAL	10K	1%	1/4W
R522	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R523	1-249-411-11	CARBON	330	5%	1/4W
R525	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
R526	1-208-798-11	RES,CHIP	4.7K	0.50%	1/10W
R527	1-216-001-00	RES,CHIP	10	5%	1/10W
R528	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R529	1-216-635-11	METAL CHIP	220	0.50%	1/10W
R531	1-247-843-11	CARBON	3.3K	5%	1/4W
R533	1-249-417-11	CARBON	1K	5%	1/4W
R534	1-216-361-00	METAL OXIDE	0.22	5%	2W F
R535	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R536	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R537	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R540	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R541	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R542	1-216-295-91	SHORT	0		
R543	1-249-426-11	CARBON	5.6K	5%	1/4W F
R544	1-215-918-00	METAL OXIDE	1.5K	5%	3W F
R545	1-216-077-00	RES,CHIP	15K	5%	1/10W
R546	1-216-077-00	RES,CHIP	15K	5%	1/10W
R547	1-216-085-00	RES,CHIP	33K	5%	1/10W
R549	1-215-451-00	METAL	18K	1%	1/4W
R550	1-216-097-91	RES,CHIP	100K	5%	1/10W
R551	1-249-421-11	CARBON	2.2K	5%	1/4W
R552	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R553	1-215-457-00	METAL	33K	1%	1/4W
R554	1-215-457-00	METAL	33K	1%	1/4W
R556	1-215-437-00	METAL	4.7K	1%	1/4W
R557	1-216-345-11	METAL OXIDE	0.47	5%	1W F
R558	1-249-421-11	CARBON	2.2K	5%	1/4W
R559	1-249-429-11	CARBON	10K	5%	1/4W
R562	1-249-401-11	CARBON	47	5%	1/4W
R567	1-216-105-91	RES,CHIP	220K	5%	1/10W
R568	1-249-383-11	CARBON	1.5	5%	1/4W F
R570	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R571	1-215-437-00	METAL	4.7K	1%	1/4W
R573	1-216-089-91	RES,CHIP	47K	5%	1/10W
R577	1-215-913-11	METAL OXIDE	220	5%	3W F
R578	1-216-369-00	METAL OXIDE	1	5%	2W F
R579	1-216-097-91	RES,CHIP	100K	5%	1/10W
R580	1-216-699-11	METAL CHIP	100K	0.50%	1/10W
R581	1-208-798-11	RES,CHIP	4.7K	0.50%	1/10W
R585	1-249-391-11	CARBON	6.8	5%	1/4W F
R588	1-215-888-00	METAL OXIDE	220	5%	2W F
R589	1-215-888-00	METAL OXIDE	220	5%	2W F
R590	1-215-465-00	METAL	68K	1%	1/4W
R591	1-260-288-11	CARBON	0.47	5%	1/2W F
R593	1-260-288-11	CARBON	0.47	5%	1/2W F
R594	1-260-288-11	CARBON	0.47	5%	1/2W F
R596	1-215-920-11	METAL OXIDE	3.3K	5%	3W F
R597	1-247-750-11	CARBON	680	5%	1/2W F
R598	1-249-438-11	CARBON	56K	5%	1/4W
R599	1-249-389-11	CARBON	4.7	5%	1/4W
R600	1-249-438-11	CARBON	56K	5%	1/4W
R601	1-249-418-11	CARBON	1.2K	5%	1/4W F
R602	1-249-389-11	CARBON	4.7	5%	1/4W F
R603	1-215-485-00	METAL	470K	1%	1/4W
R604	1-216-097-91	RES,CHIP	100K	5%	1/10W
R607	1-249-425-11	CARBON	4.7K	5%	1/4W
R608	1-240-205-91	CARBON	22M	5%	1/2W
R609	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R611	1-216-089-91	RES,CHIP	47K	5%	1/10W
R612	1-216-045-00	RES,CHIP	680	5%	1/10W
R614	1-216-041-00	RES,CHIP	470	5%	1/10W
R615	1-216-350-11	METAL OXIDE	1.2	5%	1W F
R616	1-260-302-51	CARBON	6.8	5%	1/2W F
R617	1-247-791-91	CARBON	22	5%	1/4W
R619	1-260-128-11	CARBON	270K	5%	1/2W
R620	1-215-915-11	METAL OXIDE	470	5%	3W F
R622	1-216-400-11	METAL OXIDE	8.2	5%	3W F
R623	1-216-095-00	RES,CHIP	82K	5%	1/10W
R624	1-216-089-91	RES,CHIP	47K	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

A (KV-XF21M30 KV-XF21M50) **A** (KV-XF51M65)

REF. NO.		PART NO.	DESCRIPTION			REMARK
R626		1-216-049-91	RES,CHIP	1K	5%	1/10W
R627		1-240-251-11	CMT,MELF	6.8	5%	10W
R629		1-247-747-11	CARBON	470	5%	1/2W F
R630		1-249-429-11	CARBON	10K	5%	1/4W F
R631		1-216-089-91	RES,CHIP	47K	5%	1/10W
R632		1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R634	⚠	1-218-265-91	METAL	8.2M	5%	1W
R635		1-216-492-11	METAL OXIDE	82K	5%	3W F
R636		1-215-924-00	METAL OXIDE	15K	5%	3W F
R637		1-216-492-11	METAL OXIDE	82K	5%	3W F
R639		1-216-363-00	METAL OXIDE	0.33	5%	2W F
R640		1-249-415-11	CARBON	680	5%	1/4W
R641		1-216-362-11	METAL OXIDE	0.27	5%	2W F
R642		1-249-419-11	CARBON	1.5K	5%	1/4W
R643		1-247-843-11	CARBON	3.3K	5%	1/4W
R644		1-249-419-11	CARBON	1.5K	5%	1/4W
R646		1-215-924-00	METAL OXIDE	15K	5%	3W F
R647		1-249-401-11	CARBON	47	5%	1/4W
R648		1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R649		1-249-417-11	CARBON	1K	5%	1/4W
R650		1-215-882-00	METAL OXIDE	22	5%	2W F
R652		1-215-900-11	METAL OXIDE	22K	5%	2W F
R653		1-215-873-00	METAL OXIDE	4.7K	5%	1W F
R657		1-260-127-11	CARBON	220K	5%	1/2W
R659		1-216-049-91	RES,CHIP	1K	5%	1/10W
R661		1-215-873-00	METAL OXIDE	4.7K	5%	1W F
R680		1-216-308-00	RES,CHIP	4.7	5%	1/10W
R901		1-249-411-11	CARBON	330	5%	1/4W
R902		1-249-411-11	CARBON	330	5%	1/4W
R903		1-216-022-00	RES,CHIP	75	5%	1/10W
R904		1-216-033-00	RES,CHIP	220	5%	1/10W
R905		1-216-113-00	RES,CHIP	470K	5%	1/10W
R906		1-216-077-00	RES,CHIP	15K	5%	1/10W
R907		1-216-113-00	RES,CHIP	470K	5%	1/10W
R908		1-216-077-00	RES,CHIP	15K	5%	1/10W
R909		1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R910		1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R911		1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R912		1-216-041-00	RES,CHIP	470	5%	1/10W
R913		1-216-049-91	RES,CHIP	1K	5%	1/10W
R914		1-216-055-00	RES,CHIP	1.8K	5%	1/10W
R915		1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R916		1-216-017-91	RES,CHIP	47	5%	1/10W
R917		1-216-041-00	RES,CHIP	470	5%	1/10W
R918		1-216-041-00	RES,CHIP	470	5%	1/10W
			<RELAY>			
RY601	⚠	1-755-266-11	RELAY, AC POWER			
			<SWITCH>			
S502		1-572-707-11	SWITCH, LEVER			
S600	⚠	1-571-433-31	SWITCH, PUSH (AC POWER)			
S901		1-692-431-21	SWITCH, TACTILE			
S902		1-692-431-21	SWITCH, TACTILE			
S903		1-692-431-21	SWITCH, TACTILE			
S904		1-692-431-21	SWITCH, TACTILE			
S905		1-692-431-21	SWITCH, TACTILE			
S906		1-692-431-21	SWITCH, TACTILE			
S907		1-692-431-21	SWITCH, TACTILE			
			<TRANSFORMER>			
T501		1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE			
T503	⚠	1-453-293-11	TRANSFORMER ASSY, FLYBACK (NX-1748//M3A4)			
T601	⚠	1-424-682-11	TRANSFORMER, LINE FILTER (KV-XF21M30)			
T601		1-424-682-11	TRANSFORMER, LINE FILTER (KV-XF21M50)			
T603	⚠	1-433-513-31	TRANSFORMER, CONVERTER (SRT)			
T604	⚠	1-431-852-11	TRANSFORMER, CONVERTER (SRT)			
			<THERMISTOR>			
THP600		1-810-961-11	THERMISTOR, POSITIVE			
			<TUNER>			
TU101		8-598-451-10	TUNER, FSS BTF-WG441 (KV-XF21M30)			
TU101		8-598-449-01	TUNER, FSS BTF-LG433 (KV-XF21M50)			
			<CRYSTAL>			
X001		1-579-125-11	VIBRATOR, CERAMIC			
X301		1-781-134-21	VIBRATOR, CRYSTAL			
X302		1-781-132-21	VIBRATOR, CRYSTAL			

****

	*	A-1298-788-A	A BOARD, COMPLETE (KV-XF51M65)			
			**********			
	*	4-055-304-01	HOLDER, LED			
	*	4-067-182-01	HOLDER, FBT			
		4-382-854-11	SCREW (M3X10), P, SW (+)			
		4-382-854-21	SCREW (M3X14), P, SW (+)			
		7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3			
			<CAPACITOR>			
C003		1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C004		1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C005		1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C006		1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C007		1-126-933-11	ELECT	100MF	20%	16V
C008		1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C010		1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C012		1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C013		1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C014		1-126-967-11	ELECT	47MF	20%	50V
C015		1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C016		1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C017		1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C019		1-104-665-11	ELECT	100MF	20%	25V
C022		1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V

A (KV-XF51M65)

REF. NO.	PART NO.	DESCRIPTION			REMARK
C023	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C024	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C026	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C027	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C028	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C030	1-126-965-11	ELECT	22MF	20%	50V
C031	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C032	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C034	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C041	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C042	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C043	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C044	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C047	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C048	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C050	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C051	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C053	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C054	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C055	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C103	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C104	1-126-933-11	ELECT	100MF	20%	16V
C107	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C108	1-126-933-11	ELECT	100MF	20%	16V
C109	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C110	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C111	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C112	1-126-933-11	ELECT	100MF	20%	16V
C113	1-126-967-11	ELECT	47MF	20%	50V
C114	1-126-967-11	ELECT	47MF	20%	50V
C202	1-163-017-91	CERAMIC CHIP	4700PF	10%	50V
C203	1-163-017-91	CERAMIC CHIP	4700PF	10%	50V
C204	1-137-190-81	FILM	0.22MF	5%	50V
C205	1-163-019-91	CERAMIC CHIP	6800PF	10%	50V
C206	1-163-019-91	CERAMIC CHIP	6800PF	10%	50V
C207	1-137-190-81	FILM	0.22MF	5%	50V
C208	1-126-963-91	ELECT	4.7MF	20%	50V
C209	1-126-963-91	ELECT	4.7MF	20%	50V
C210	1-126-933-11	ELECT	100MF	20%	16V
C211	1-126-941-11	ELECT	470MF	20%	25V
C212	1-126-933-11	ELECT	100MF	20%	16V
C213	1-126-933-11	ELECT	100MF	20%	16V
C214	1-126-942-61	ELECT	1000MF	20%	25V
C215	1-126-942-61	ELECT	1000MF	20%	25V
C216	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C217	1-126-964-11	ELECT	10MF	20%	50V
C218	1-136-167-00	FILM	0.15MF	5%	50V
C219	1-136-167-00	FILM	0.15MF	5%	50V
C220	1-126-942-61	ELECT	1000MF	20%	25V
C221	1-126-964-11	ELECT	10MF	20%	50V
C223	1-126-965-11	ELECT	22MF	20%	50V
C224	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C225	1-109-982-11	CERAMIC CHIP	1MF	10%	10V
C226	1-109-982-11	CERAMIC CHIP	1MF	10%	10V
C227	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C228	1-163-024-00	CERAMIC CHIP	0.018MF	10%	50V
C229	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V
C230	1-163-024-00	CERAMIC CHIP	0.018MF	10%	50V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C231	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V
C232	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C233	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C234	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C235	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C236	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C238	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C240	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C241	1-164-346-11	CERAMIC CHIP	1MF		16V
C242	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C243	1-216-295-91	SHORT	0		
C244	1-164-700-11	CERAMIC CHIP	0.68MF		16V
C245	1-164-346-11	CERAMIC CHIP	1MF		16V
C246	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V
C247	1-164-346-11	CERAMIC CHIP	1MF		16V
C248	1-163-010-11	CERAMIC CHIP	0.0012MF	10%	50V
C249	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C250	1-216-295-91	SHORT	0		
C251	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C252	1-164-346-11	CERAMIC CHIP	1MF		16V
C253	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C254	1-126-965-11	ELECT	22MF	20%	50V
C255	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C256	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C259	1-126-933-11	ELECT	100MF	20%	16V
C264	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C265	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C301	1-126-935-11	ELECT	470MF	20%	16V
C302	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C303	1-126-964-11	ELECT	10MF	20%	50V
C304	1-126-967-11	ELECT	47MF	20%	50V
C305	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C306	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C307	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C308	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C309	1-126-957-11	ELECT	0.22MF	20%	50V
C310	1-126-963-11	ELECT	4.7MF	20%	50V
C311	1-126-964-11	ELECT	10MF	20%	50V
C312	1-164-346-11	CERAMIC CHIP	1MF		16V
C313	1-164-346-11	CERAMIC CHIP	1MF		16V
C315	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C316	1-126-967-11	ELECT	47MF	20%	50V
C317	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C318	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C319	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C320	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C322	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C323	1-126-965-11	ELECT	22MF	20%	50V
C324	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C325	1-126-960-11	ELECT	1MF	20%	50V
C327	1-126-965-11	ELECT	22MF	20%	50V
C328	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C329	1-126-965-11	ELECT	22MF	20%	50V
C330	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C331	1-247-807-31	CARBON	100	5%	1/4W
C332	1-126-963-11	ELECT	4.7MF	20%	50V
C335	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

A (KV-XF51M65)

REF. NO.	PART NO.	DESCRIPTION			REMARK
C336	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C337	1-126-961-11	ELECT	2.2MF	20%	50V
C338	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C341	1-115-340-11	CERAMIC CHIP	0.22MF	10%	25V
C342	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C401	1-164-346-11	CERAMIC CHIP	1MF		16V
C402	1-164-346-11	CERAMIC CHIP	1MF		16V
C403	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C404	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C405	1-126-935-11	ELECT	470MF	20%	16V
C406	1-164-346-11	CERAMIC CHIP	1MF		16V
C407	1-164-346-11	CERAMIC CHIP	1MF		16V
C408	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C409	1-126-963-11	ELECT	4.7MF	20%	50V
C415	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C502	1-163-145-00	CERAMIC CHIP	0.0015MF	5%	50V
C506	1-107-638-11	ELECT	33MF	20%	160V
C507	1-161-830-00	CERAMIC	0.0047MF		500V
C510	1-102-112-00	CERAMIC	330PF	10%	50V
C512	1-163-989-91	CERAMIC CHIP	33000PF		
C513	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C514	1-106-383-00	MYLAR	0.047MF	10%	200V
C517	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C518	1-126-933-11	ELECT	100MF	20%	16V
C519	1-102-212-00	CERAMIC	820PF	10%	500V
C521	1-104-666-11	ELECT	220MF	20%	25V
C522	1-126-933-11	ELECT	100MF	20%	16V
C523	1-102-002-00	CERAMIC	680PF	10%	500V
C524	1-126-967-11	ELECT	47MF	20%	50V
C526	1-130-495-00	MYLAR	0.1MF	5%	50V
C527	1-102-820-00	CERAMIC	330PF	5%	50V
C528	1-162-134-11	CERAMIC	470PF	10%	2KV
C530	1-137-372-11	FILM	0.022MF	5%	50V
C531	1-109-953-11	ELECT	2.2MF	20%	50V
C532	1-128-528-11	ELECT	470MF	20%	25V
C533	1-128-528-11	ELECT	470MF	20%	25V
C536	1-136-165-00	FILM	0.1MF	5%	50V
C537	1-107-911-11	ELECT	220MF	20%	50V
C538	1-136-076-00	FILM	0.0085MF	3%	2KV
C539	1-129-746-91	FILM	0.039MF	5%	400V
C540	1-136-171-00	FILM	0.33MF	5%	50V
C546	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C549	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C550	1-106-220-00	MYLAR	0.1MF	10%	100V
C551	1-126-960-11	ELECT	1MF	20%	50V
C552	1-162-116-00	CERAMIC	680PF	10%	2KV
C553	1-162-116-00	CERAMIC	680PF	10%	2KV
C554	1-137-417-11	MYLAR	0.0047MF	10%	200V
C556	1-128-528-11	ELECT	470MF	20%	25V
C557	1-126-941-11	ELECT	470MF	20%	25V
C558	1-123-024-21	ELECT	33MF		160V
C560	1-102-228-00	CERAMIC	470PF	10%	500V
C561	1-136-557-11	FILM	0.0033MF	5%	630V
C562	1-102-228-00	CERAMIC	470PF	10%	500V
C564	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C565	1-107-655-11	ELECT	47MF	20%	250V
C566	1-102-244-00	CERAMIC	220PF	10%	500V
C567	1-115-521-11	FILM	0.82MF	5%	250V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C568	1-102-228-00	CERAMIC	470PF	10%	500V
C570	1-115-520-11	FILM	0.68MF	5%	250V
C571	1-126-959-11	ELECT	0.47MF	20%	50V
C573	1-106-379-12	MYLAR	0.033MF	10%	200V
C574	1-107-636-11	ELECT	10MF	20%	160V
C576	1-130-495-00	MYLAR	0.1MF	5%	50V
C577	1-106-395-00	MYLAR	0.15MF	10%	200V
C579	1-102-038-00	CERAMIC	0.001MF		500V
C582	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C600 ⚠	1-104-705-51	FILM	0.1MF	20%	250V
C604	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C605 ⚠	1-127-942-51	CERAMIC	330PF	10%	250V
C606 ⚠	1-127-942-51	CERAMIC	330PF	10%	250V
C607	1-161-830-00	CERAMIC	0.0047MF	99%	500V
C608	1-161-830-00	CERAMIC	0.0047MF	99%	500V
C609	1-126-968-11	ELECT	100MF	20%	50V
C610	1-126-964-11	ELECT	10MF	20%	50V
C611	1-161-830-00	CERAMIC	0.0047MF	99%	500V
C612	1-161-830-00	CERAMIC	0.0047MF	99%	500V
C613	1-117-752-11	ELECT(BLOCK)	330MF	20%	450V
C614	1-126-964-11	ELECT	10MF	20%	50V
C616	1-130-202-00	FILM	0.022MF	10%	400V
C617	1-107-792-11	CERAMIC	100PF	5%	1KV
C618	1-125-893-11	FILM	680PF	3%	1.5KV
C619 ⚠	1-119-886-51	CERAMIC	470PF	10%	250V
C620	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C621	1-102-114-00	CERAMIC	470PF	10%	50V
C622	1-102-074-00	CERAMIC	0.001MF	10%	50V
C623	1-104-665-11	ELECT	100MF	20%	25V
C624	1-104-331-11	CERAMIC	0.0022MF	10%	1KV
C625	1-102-002-91	CERAMIC	680PF	10%	500V
C627	1-102-002-00	CERAMIC	680PF	10%	500V
C628	1-126-942-61	ELECT	1000MF	20%	25V
C629	1-126-964-11	ELECT	10MF	20%	50V
C630	1-124-347-00	ELECT	100MF	20%	160V
C631	1-128-550-11	ELECT	2200MF	20%	50V
C633	1-104-999-11	MYLAR	0.1MF	10%	200V
C634	1-126-934-11	ELECT	220MF	20%	16V
C635	1-104-665-11	ELECT	100MF	20%	10V
C636	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C639	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C640	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C641	1-102-002-00	CERAMIC	680PF	10%	500V
C642	1-126-943-11	ELECT	2200MF	20%	25V
C643	1-126-933-11	ELECT	100MF	20%	16V
C644	1-104-331-11	CERAMIC	0.0022MF	10%	1KV
C645	1-137-605-11	FILM	0.01MF	10%	250V
C646	1-107-679-91	ELECT	10MF	20%	450V
C647	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C649	1-126-940-11	ELECT	330MF	20%	25V
C650	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C651	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C652	1-126-965-11	ELECT	22MF	20%	50V
C653	1-126-967-11	ELECT	47MF	20%	50V
C657	1-101-821-00	CERAMIC	0.0022MF		500V
C658	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C901	1-136-153-00	FILM	0.01MF	5%	50V

A (KV-XF51M65)

REF. NO.	PART NO.	DESCRIPTION			REMARK
C902	1-136-153-00	FILM	0.01MF	5%	50V
C905	1-126-963-11	ELECT	4.7MF	20%	50V
C906	1-164-346-11	CERAMIC CHIP	1MF		16V
C907	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C908	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C909	1-164-346-11	CERAMIC CHIP	1MF		16V
C910	1-126-967-11	ELECT	47MF	20%	50V
C911	1-126-967-11	ELECT	47MF	20%	50V
C912	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C913	1-126-933-11	ELECT	100MF	20%	16V
C914	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
		<CONNECTOR>			
CN104	1-695-915-11	TAB (CONTACT)			
CN201 *	1-564-510-51	PLUG, CONNECTOR 7P			
CN202 *	1-785-608-11	PIN, CONNECTOR 4P			
CN203 *	1-564-506-11	PLUG, CONNECTOR 3P			
CN204 *	1-564-506-11	PLUG, CONNECTOR 3P			
CN301 *	1-774-813-11	CONNECTOR, BOARD TO BOARD 7P			
CN305 *	1-564-509-11	PLUG, CONNECTOR 6P			
CN306 *	1-564-510-11	PLUG, CONNECTOR 7P			
CN307 *	1-774-813-11	CONNECTOR, BOARD TO BOARD 7P			
CN505	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P			
CN506	4-352-844-01	PIN, LEAD, COATING			
CN601 *	1-580-843-11	PIN, CONNECTOR (POWER)			
CN602 *	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
CN604 *	1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P			
CN605 *	1-564-507-71	PLUG, CONNECTOR 4P			
CN609 *	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P			
CN901 *	1-564-509-51	PLUG, CONNECTOR 6P			
		<COMPOSITION CIRCUIT BLOCK>			
CP301	1-467-554-21	FILTER BLOCK, COMB			
		<DIODE>			
D001	8-719-988-61	DIODE 1SS355TE-17			
D005	8-719-988-61	DIODE 1SS355TE-17			
D006	8-719-988-61	DIODE 1SS355TE-17			
D027	1-216-073-00	RES,CHIP	10K	5%	1/10W
D048	1-216-073-00	RES,CHIP	10K	5%	1/10W
D050	1-216-073-00	RES,CHIP	10K	5%	1/10W
D055	1-216-073-00	RES,CHIP	10K	5%	1/10W
D056	1-216-073-00	RES,CHIP	10K	5%	1/10W
D100	8-719-404-50	DIODE MA111-TX			
D203	8-719-914-42	DIODE DA204K			
D213	1-216-073-00	RES,CHIP	10K	5%	1/10W
D214	1-216-073-00	RES,CHIP	10K	5%	1/10W
D229	1-216-073-00	RES,CHIP	10K	5%	1/10W
D300	1-216-295-91	SHORT	0		
D301	8-719-988-61	DIODE 1SS355TE-17			
D304	1-216-073-00	RES,CHIP	10K	5%	1/10W
D306	8-719-988-61	DIODE 1SS355TE-17			
D307	8-719-988-61	DIODE 1SS355TE-17			
D308	8-719-988-61	DIODE 1SS355TE-17			
D309	8-719-159-10	DIODE RD5.1SB-T2			

REF. NO.	PART NO.	DESCRIPTION			REMARK
D311	8-719-988-61	DIODE 1SS355TE-17			
D312	8-719-988-61	DIODE 1SS355TE-17			
D313	8-719-988-61	DIODE 1SS355TE-17			
D314	8-719-988-61	DIODE 1SS355TE-17			
D315	8-719-988-61	DIODE 1SS355TE-17			
D316	8-719-069-57	DIODE UDZS-TE17-6.8B			
D321	1-216-073-00	RES,CHIP	10K	5%	1/10W
D333	1-216-073-00	RES,CHIP	10K	5%	1/10W
D349	1-216-073-00	RES,CHIP	10K	5%	1/10W
D361	1-216-073-00	RES,CHIP	10K	5%	1/10W
D366	1-216-073-00	RES,CHIP	10K	5%	1/10W
D367	1-216-073-00	RES,CHIP	10K	5%	1/10W
D401	8-719-158-35	DIODE RD9.1SB			
D402	8-719-158-35	DIODE RD9.1SB			
D403	8-719-158-35	DIODE RD9.1SB			
D404	8-719-158-35	DIODE RD9.1SB			
D405	8-719-158-35	DIODE RD9.1SB			
D406	8-719-158-35	DIODE RD9.1SB			
D504	8-719-302-43	DIODE EL1Z			
D505	8-719-988-61	DIODE 1SS355TE-17			
D506	8-719-911-19	DIODE 1SS119-25			
D507	8-719-988-61	DIODE 1SS355TE-17			
D508	8-719-988-61	DIODE 1SS355TE-17			
D509	1-216-073-00	RES,CHIP	10K	5%	1/10W
D510	8-719-988-61	DIODE 1SS355TE-17			
D511	8-719-988-61	DIODE 1SS355TE-17			
D512	8-719-988-61	DIODE 1SS355TE-17			
D513	8-719-908-03	DIODE GP08D			
D517	8-719-945-80	DIODE ERC06-15S			
D518	8-719-900-26	DIODE ERD29-08J			
D520	1-216-295-91	SHORT	0		
D521	8-719-302-43	DIODE EL1Z			
D522	8-719-302-43	DIODE EL1Z			
D523	8-719-302-43	DIODE EL1Z			
D525	8-719-911-19	DIODE 1SS119-25			
D526	8-719-150-92	DIODE RD33EB3T			
D527	8-719-908-03	DIODE GP08D			
D528	8-719-908-03	DIODE GP08D			
D529	8-719-028-72	DIODE RGP02-17EL-6433			
D531	8-719-988-61	DIODE 1SS355TE-17			
D532	8-719-988-61	DIODE 1SS355TE-17			
D560	1-216-073-00	RES,CHIP	10K	5%	1/10W
D565	1-216-073-00	RES,CHIP	10K	5%	1/10W
D602	8-719-911-19	DIODE 1SS119-25			
D603	8-719-150-92	DIODE RD33EB3T			
D604	8-719-028-72	DIODE RGP02-17EL-6433			
D605	8-719-510-53	DIODE D4SB60L			
D606	8-719-108-18	THYRISTOR 5P6M			
D607	8-719-404-50	DIODE MA111-TX			
D608	8-719-110-53	DIODE RD20ESB2			
D609	8-719-311-31	DIODE RU-1P			
D610	8-719-043-76	DIODE AK04V0			
D611	8-719-046-74	DIODE AU-01Z-V1			
D613	8-719-046-74	DIODE AU-01Z-V1			
D614	8-719-046-74	DIODE AU-01Z-V1			
D616	8-719-067-18	DIODE RN4Z			
D618	8-719-067-18	DIODE RN4Z			

A (KV-XF51M65)

REF. NO.	PART NO.	DESCRIPTION			REMARK
D620	8-719-110-72	DIODE RD30ESB2			
D622	8-719-071-39	DIODE FMU-G26S			
D623	8-719-978-65	DIODE DTZ-TT11-15B			
D624	8-719-404-50	DIODE MA111-TX			
D625	8-719-158-39	DIODE RD10SB			
D627	8-719-073-84	DIODE 31DQ06-FC5			
D628	8-719-911-19	DIODE 1SS119-25			
D631	8-719-068-00	DIODE ERC04-06SE			
D632	8-719-068-00	DIODE ERC04-06SE			
D633	8-719-948-45	DIODE ERA22-08			
D634	8-719-404-50	DIODE MA111-TX			
D635	8-719-404-50	DIODE MA111-TX			
D636	8-719-510-02	DIODE D1NS4			
D637	8-719-109-96	DIODE RD6.8ESB1			
D638	8-719-510-48	DIODE D1N20R			
D660	1-216-073-00	RES,CHIP	10K	5% 1/10W	
D901	8-719-158-35	DIODE RD9.1SB			
D902	8-719-158-35	DIODE RD9.1SB			
D903	8-719-158-35	DIODE RD9.1SB			
D904	8-719-158-35	DIODE RD9.1SB			
D905	8-719-158-35	DIODE RD9.1SB			
D906	8-719-045-19	DIODE SPB-26MVWF			
		<CONNECTOR>			
DY1	* 1-580-798-11	CONNECTOR PIN (DY) 6P			
		<FERRITE BEAD>			
FB103	1-410-397-21	FERRITE	1.1UH		
FB501	1-410-397-21	FERRITE	1.1UH		
FB502	1-410-397-21	FERRITE	1.1UH		
FB600	1-410-397-21	FERRITE	1.1UH		
FB601	1-410-397-21	FERRITE	1.1UH		
FB602	1-410-397-21	FERRITE	1.1UH		
FB603	1-410-397-21	FERRITE	1.1UH		
FB604	1-410-397-21	FERRITE	1.1UH		
FB605	1-412-911-41	FERRITE	0UH		
FB607	1-410-397-21	FERRITE	1.1UH		
FB608	1-412-911-31	FERRITE	0UH		
FB611	1-410-397-21	FERRITE	1.1UH		
FB613	1-410-397-21	FERRITE	1.1UH		
FB615	1-410-397-21	FERRITE	1.1UH		
		<IC>			
IC001	8-752-904-20	IC CXP86449-611S			
IC002	8-759-371-21	IC MM1319AFBE			
IC003	8-759-370-34	IC ST24C08FB6			
IC100	8-759-042-02	IC S-80743AL-A7-S			
IC201	8-759-339-60	IC TA8248K			
IC203	8-759-553-40	IC TDA7429S			
IC301	8-752-088-39	IC CXA2130S			
IC502	8-759-700-07	IC NJM2903M			
IC503	8-759-980-58	IC TDA8172			
IC601	8-749-013-75	IC STR-F6654			

REF. NO.	PART NO.	DESCRIPTION		REMARK
IC602	8-749-920-61	IC SE-135N		
IC603	8-759-701-59	IC NJM78M09FA		
IC604	8-759-231-53	IC TA7805S		
IC901	8-742-041-12	HYB IC SBX1981-11(12)		
		<JACK>		
J401	1-779-850-11	JACK BLOCK, PIN 6P		
J902	1-770-329-11	JACK, PIN 3P		
		<CHIP CONDUCTOR>		
JR002	1-216-295-91	SHORT	0	
JR003	1-216-295-91	SHORT	0	
JR004	1-216-295-91	SHORT	0	
JR005	1-216-295-91	SHORT	0	
JR006	1-216-295-91	SHORT	0	
JR007	1-216-295-91	SHORT	0	
JR008	1-216-295-91	SHORT	0	
JR009	1-216-295-91	SHORT	0	
JR010	1-216-295-91	SHORT	0	
JR011	1-216-295-91	SHORT	0	
JR012	1-216-295-91	SHORT	0	
JR013	1-216-295-91	SHORT	0	
JR014	1-216-295-91	SHORT	0	
JR015	1-216-295-91	SHORT	0	
JR016	1-216-295-91	SHORT	0	
JR018	1-216-295-91	SHORT	0	
JR019	1-216-295-91	SHORT	0	
JR102	1-216-295-91	SHORT	0	
JR107	1-216-295-91	SHORT	0	
JR202	1-216-295-91	SHORT	0	
JR301	1-216-295-91	SHORT	0	
JR303	1-216-295-91	SHORT	0	
JR401	1-216-295-91	SHORT	0	
JR403	1-216-295-91	SHORT	0	
JR404	1-216-295-91	SHORT	0	
JR405	1-216-295-91	SHORT	0	
JR500	1-216-295-91	SHORT	0	
JR501	1-216-295-91	SHORT	0	
JR600	1-216-295-91	SHORT	0	
		<COIL>		
L002	1-414-856-11	INDUCTOR	10UH	
L003	1-414-180-11	INDUCTOR	3.3UH	
L005	1-414-233-22	INDUCTOR CHIP	0UH	
L101	1-414-856-11	INDUCTOR	10UH	
L102	1-414-856-11	INDUCTOR	10UH	
L103	1-414-856-11	INDUCTOR	10UH	
L104	1-414-856-11	INDUCTOR	10UH	
L105	1-414-856-11	INDUCTOR	10UH	
L204	1-414-856-11	INDUCTOR	10UH	
L301	1-414-189-31	INDUCTOR	100UH	
L302	1-414-185-41	INDUCTOR	22UH	
L501	1-412-525-31	INDUCTOR	10UH	
L502	1-422-613-11	COIL, AIR CORE		
L503	1-412-525-31	INDUCTOR	10UH	
L504	1-412-525-31	INDUCTOR	10UH	

A (KV-XF51M65)

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK
L505	1-412-525-31	INDUCTOR 10UH	
L506	1-412-525-31	INDUCTOR 10UH	
L507	1-459-111-00	INDUCTOR 10MMH	
L508	1-412-525-31	INDUCTOR 10UH	
L509	1-459-390-00	INDUCTOR 390UH	
L510	1-416-972-11	COIL, HORIZONTAL LINEARITY	
L512	1-412-549-31	INDUCTOR 1MMH	
L513	1-412-549-31	INDUCTOR 1MMH	
L515	1-459-104-00	COIL, WITH CORE	
L518	1-408-611-31	INDUCTOR 47UH	
L601	1-412-527-11	INDUCTOR 15UH	
L901	1-408-603-31	INDUCTOR 10UH	
L902	1-408-603-31	INDUCTOR 10UH	
L905	1-414-856-11	INDUCTOR 10UH	
		<PHOTO COUPLER>	
PH600 ⚠	8-749-924-35	PHOTO COUPLER ON3171-R	
		<IC LINK>	
PS200	1-532-675-21	LINK, IC 1.5A/150V	
		<TRANSISTOR>	
Q002	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q003	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q004	8-729-900-53	TRANSISTOR DTC114EK	
Q101	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q201	8-729-424-67	TRANSISTOR UN2216	
Q202	8-729-424-67	TRANSISTOR UN2216	
Q203	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q204	8-729-216-22	TRANSISTOR 2SA1162-G	
Q205	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q206	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q207	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q301	8-729-216-22	TRANSISTOR 2SA1162-G	
Q302	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q303	8-729-216-22	TRANSISTOR 2SA1162-G	
Q305	8-729-216-22	TRANSISTOR 2SA1162-G	
Q306	8-729-216-22	TRANSISTOR 2SA1162-G	
Q307	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q308	8-729-216-22	TRANSISTOR 2SA1162-G	
Q312	8-729-216-22	TRANSISTOR 2SA1162-G	
Q313	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q315	1-801-806-11	TRANSISTOR DTC144EK-T146	
Q401	8-729-424-67	TRANSISTOR UN2216	
Q402	8-729-424-67	TRANSISTOR UN2216	
Q403	8-729-216-22	TRANSISTOR 2SA1162-G	
Q404	8-729-216-22	TRANSISTOR 2SA1162-G	
Q503	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q505	8-729-931-45	TRANSISTOR IRF614	
Q506	8-729-140-96	TRANSISTOR 2SD774-34	
Q507	8-729-216-22	TRANSISTOR 2SA1162-G	
Q509	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q511	8-729-016-32	TRANSISTOR 2SC4927-01	
Q601	8-729-023-22	TRANSISTOR 2SD2114K	
Q602	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q603	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q604	8-729-200-17	TRANSISTOR 2SA1091-O	
Q605	8-729-044-30	TRANSISTOR 2SK2845-LB102	
Q606	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q607	8-729-922-37	TRANSISTOR 2SD2144S-UVW	
Q608	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q901	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q902	1-801-806-11	TRANSISTOR DTC144EKA-T146	
		<RESISTOR>	
R001	1-414-233-22	INDUCTOR CHIP 0UH	
R002	1-216-025-91	RES,CHIP 100 5% 1/10W	
R003	1-216-295-91	SHORT 0	
R004	1-216-025-91	RES,CHIP 100 5% 1/10W	
R005	1-216-025-91	RES,CHIP 100 5% 1/10W	
R007	1-216-295-91	SHORT 0	
R008	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R010	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R011	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R012	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R013	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R014	1-216-025-91	RES,CHIP 100 5% 1/10W	
R015	1-216-025-91	RES,CHIP 100 5% 1/10W	
R016	1-216-025-91	RES,CHIP 100 5% 1/10W	
R017	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R018	1-216-033-00	RES,CHIP 220 5% 1/10W	
R022	1-216-033-00	RES,CHIP 220 5% 1/10W	
R024	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R025	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R026	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R028	1-216-073-91	RES,CHIP 10K 5% 1/10W	
R029	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R031	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R035	1-216-025-91	RES,CHIP 100 5% 1/10W	
R036	1-216-025-91	RES,CHIP 100 5% 1/10W	
R037	1-216-025-91	RES,CHIP 100 5% 1/10W	
R040	1-216-025-91	RES,CHIP 100 5% 1/10W	
R041	1-216-025-91	RES,CHIP 100 5% 1/10W	
R042	1-216-295-91	SHORT 0	
R043	1-216-025-91	RES,CHIP 100 5% 1/10W	
R044	1-216-025-91	RES,CHIP 100 5% 1/10W	
R045	1-414-233-22	INDUCTOR CHIP 0UH	
R046	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R047	1-414-233-22	INDUCTOR CHIP 0UH	
R053	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R061	1-216-033-00	RES,CHIP 220 5% 1/10W	
R062	1-216-041-00	RES,CHIP 470 5% 1/10W	
R063	1-216-037-00	RES,CHIP 330 5% 1/10W	
R064	1-216-037-00	RES,CHIP 330 5% 1/10W	
R065	1-216-037-00	RES,CHIP 330 5% 1/10W	
R066	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R101	1-216-025-91	RES,CHIP 100 5% 1/10W	
R102	1-216-025-91	RES,CHIP 100 5% 1/10W	
R105	1-216-295-91	SHORT 0	
R109	1-216-041-00	RES,CHIP 470 5% 1/10W	

A (KV-XF51M65)

REF. NO.	PART NO.	DESCRIPTION			REMARK
R111	1-216-025-91	RES,CHIP	100	5%	1/10W
R112	1-216-025-91	RES,CHIP	100	5%	1/10W
R113	1-216-047-91	RES,CHIP	820	5%	1/10W
R202	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R203	1-216-049-91	RES,CHIP	1K	5%	1/10W
R204	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R205	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R206	1-216-049-91	RES,CHIP	1K	5%	1/10W
R207	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R208	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R209	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R211	1-216-033-91	RES,CHIP	220	5%	1/10W
R212	1-216-033-91	RES,CHIP	220	5%	1/10W
R215	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R216	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R217	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R218	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R219	1-216-025-91	RES,CHIP	100	5%	1/10W
R220	1-216-025-91	RES,CHIP	100	5%	1/10W
R221	1-216-295-91	SHORT	0		
R222	1-216-295-91	SHORT	0		
R225	1-216-033-00	RES,CHIP	220	5%	1/10W
R226	1-216-033-00	RES,CHIP	220	5%	1/10W
R227	1-216-033-00	RES,CHIP	220	5%	1/10W
R228	1-249-389-11	CARBON	4.7	5%	1/4W
R230	1-216-073-91	RES,CHIP	10K	5%	1/10W
R231	1-216-295-91	SHORT	0		
R234	1-249-389-11	CARBON	4.7	5%	1/4W
R235	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R236	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R237	1-216-308-00	RES,CHIP	4.7	5%	1/10W
R302	1-216-295-91	SHORT	0		
R303	1-216-049-91	RES,CHIP	1K	5%	1/10W
R305	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R307	1-216-025-91	RES,CHIP	100	5%	1/10W
R308	1-216-025-91	RES,CHIP	100	5%	1/10W
R309	1-216-025-91	RES,CHIP	100	5%	1/10W
R310	1-216-025-91	RES,CHIP	100	5%	1/10W
R311	1-216-017-91	RES,CHIP	47	5%	1/10W
R312	1-216-041-00	RES,CHIP	470	5%	1/10W
R313	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R314	1-216-045-00	RES,CHIP	680	5%	1/10W
R316	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R317	1-216-077-00	RES,CHIP	15K	5%	1/10W
R318	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R319	1-216-025-91	RES,CHIP	100	5%	1/10W
R320	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R322	1-216-033-00	RES,CHIP	220	5%	1/10W
R326	1-216-295-91	SHORT	0		
R327	1-216-033-00	RES,CHIP	220	5%	1/10W
R331	1-216-295-91	SHORT	0		
R332	1-216-033-00	RES,CHIP	220	5%	1/10W
R334	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R335	1-216-045-00	RES,CHIP	680	5%	1/10W
R338	1-216-033-00	RES,CHIP	220	5%	1/10W
R340	1-216-025-91	RES,CHIP	100	5%	1/10W
R345	1-216-081-00	RES,CHIP	22K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R346	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R347	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R348	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R350	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R351	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R354	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R355	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R356	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R357	1-216-079-00	RES,CHIP	18K	5%	1/10W
R358	1-216-049-91	RES,CHIP	1K	5%	1/10W
R359	1-216-033-00	RES,CHIP	220	5%	1/10W
R360	1-216-033-00	RES,CHIP	220	5%	1/10W
R362	1-216-075-00	RES,CHIP	12K	5%	1/10W
R363	1-216-079-00	RES,CHIP	18K	5%	1/10W
R364	1-216-295-91	SHORT	0		
R365	1-216-033-00	RES,CHIP	220	5%	1/10W
R370	1-216-033-00	RES,CHIP	220	5%	1/10W
R375	1-216-025-91	RES,CHIP	100	5%	1/10W
R376	1-216-081-00	RES,CHIP	22K	5%	1/10W
R377	1-216-121-91	RES,CHIP	1M	5%	1/10W
R378	1-216-031-00	RES,CHIP	180	5%	1/10W
R401	1-216-049-91	RES,CHIP	1K	5%	1/10W
R402	1-216-073-00	RES,CHIP	10K	5%	1/10W
R403	1-216-073-00	RES,CHIP	10K	5%	1/10W
R405	1-216-049-91	RES,CHIP	1K	5%	1/10W
R407	1-216-049-91	RES,CHIP	1K	5%	1/10W
R408	1-216-049-91	RES,CHIP	1K	5%	1/10W
R409	1-216-041-00	RES,CHIP	470	5%	1/10W
R410	1-216-113-00	RES,CHIP	470K	5%	1/10W
R411	1-216-113-00	RES,CHIP	470K	5%	1/10W
R412	1-216-041-00	RES,CHIP	470	5%	1/10W
R413	1-216-021-00	RES,CHIP	68	5%	1/10W
R414	1-216-113-00	RES,CHIP	470K	5%	1/10W
R415	1-216-113-00	RES,CHIP	470K	5%	1/10W
R416	1-216-077-00	RES,CHIP	15K	5%	1/10W
R417	1-216-077-00	RES,CHIP	15K	5%	1/10W
R418	1-216-113-00	RES,CHIP	470K	5%	1/10W
R419	1-216-022-00	RES,CHIP	75	5%	1/10W
R426	1-216-033-00	RES,CHIP	220	5%	1/10W
R505	1-216-101-00	RES,CHIP	150K	5%	1/10W
R506	1-216-085-00	RES,CHIP	33K	5%	1/10W
R507	1-249-389-11	CARBON	4.7	5%	1/4W F
R508	1-215-910-00	METAL OXIDE	68	5%	3W F
R509	1-215-911-11	METAL OXIDE	100	5%	3W F
R510	1-215-885-00	METAL OXIDE	68	5%	2W F
R511	1-215-911-11	METAL OXIDE	100	5%	3W F
R512	1-249-432-11	CARBON	18K	5%	1/4W
R513	1-215-485-00	METAL	470K	1%	1/4W
R514	1-215-487-00	METAL	560K	1%	1/4W
R516	1-216-081-00	RES,CHIP	22K	5%	1/10W
R518	1-247-807-31	CARBON	100	5%	1/4W
R520	1-215-445-00	METAL	10K	1%	1/4W
R522	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R523	1-249-411-11	CARBON	330	5%	1/4W
R525	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
R526	1-208-798-11	RES,CHIP	4.7K	0.50%	1/10W
R527	1-216-001-00	RES,CHIP	10	5%	1/10W
R528	1-216-683-11	METAL CHIP	22K	0.50%	1/10W

A (**KV-XF51M65**)

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION			REMARK
R529	1-216-635-11	METAL CHIP	220	0.50%	1/10W
R531	1-247-843-11	CARBON	3.3K	5%	1/4W
R533	1-249-417-11	CARBON	1K	5%	1/4W
R534	1-216-361-00	METAL OXIDE	0.22	5%	2W F
R535	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R536	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R537	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R540	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R541	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R542	1-216-295-91	SHORT	0		
R543	1-249-426-11	CARBON	5.6K	5%	1/4W F
R544	1-215-918-00	METAL OXIDE	1.5K	5%	3W F
R545	1-216-077-00	RES,CHIP	15K	5%	1/10W
R546	1-216-077-00	RES,CHIP	15K	5%	1/10W
R547	1-216-085-00	RES,CHIP	33K	5%	1/10W
R549	1-215-451-00	METAL	18K	1%	1/4W
R550	1-216-097-91	RES,CHIP	100K	5%	1/10W
R551	1-249-421-11	CARBON	2.2K	5%	1/4W
R552	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R553	1-215-457-00	METAL	33K	1%	1/4W
R554	1-215-457-00	METAL	33K	1%	1/4W
R556	1-215-437-00	METAL	4.7K	1%	1/4W
R557	1-216-345-11	METAL OXIDE	0.47	5%	1W F
R558	1-249-421-11	CARBON	2.2K	5%	1/4W
R559	1-249-429-11	CARBON	10K	5%	1/4W
R562	1-249-401-11	CARBON	47	5%	1/4W
R567	1-216-105-91	RES,CHIP	220K	5%	1/10W
R568	1-249-383-11	CARBON	1.5	5%	1/4W F
R570	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R571	1-215-437-00	METAL	4.7K	1%	1/4W
R573	1-216-089-91	RES,CHIP	47K	5%	1/10W
R577	1-215-913-11	METAL OXIDE	220	5%	3W F
R578	1-216-369-00	METAL OXIDE	1	5%	2W F
R579	1-216-097-91	RES,CHIP	100K	5%	1/10W
R580	1-216-699-11	METAL CHIP	100K	0.50%	1/10W
R581	1-208-798-11	RES,CHIP	4.7K	0.50%	1/10W
R585	1-249-391-11	CARBON	6.8	5%	1/4W F
R588	1-215-888-00	METAL OXIDE	220	5%	2W F
R589	1-215-888-00	METAL OXIDE	220	5%	2W F
R590	1-215-465-00	METAL	68K	1%	1/4W
R591	1-260-288-11	CARBON	0.47	5%	1/2W F
R593	1-260-288-11	CARBON	0.47	5%	1/2W F
R594	1-260-288-11	CARBON	0.47	5%	1/2W F
R596	1-215-920-11	METAL OXIDE	3.3K	5%	3W F
R597	1-247-750-11	CARBON	680	5%	1/2W F
R598	1-249-438-11	CARBON	56K	5%	1/4W
R599	1-249-389-11	CARBON	4.7	5%	1/4W
R600	1-249-438-11	CARBON	56K	5%	1/4W
R601	1-249-418-11	CARBON	1.2K	5%	1/4W F
R602	1-249-389-11	CARBON	4.7	5%	1/4W F
R603	1-215-485-00	METAL	470K	1%	1/4W
R604	1-216-097-91	RES,CHIP	100K	5%	1/10W
R606	1-216-308-91	RES,CHIP	4.7	5%	1/10W
R607	1-249-425-11	CARBON	4.7K	5%	1/4W
R608	1-240-205-91	CARBON	22M	5%	1/2W
R609	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R611	1-216-089-91	RES,CHIP	47K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R612	1-216-045-00	RES,CHIP	680	5%	1/10W
R614	1-216-041-00	RES,CHIP	470	5%	1/10W
R615	1-216-350-11	METAL OXIDE	1.2	5%	1W F
R616	1-260-302-51	CARBON	6.8	5%	1/2W F
R617	1-247-791-91	CARBON	22	5%	1/4W
R619	1-260-128-11	CARBON	270K	5%	1/2W
R620	1-215-915-11	METAL OXIDE	470	5%	3W F
R622	1-216-400-11	METAL OXIDE	8.2	5%	3W F
R623	1-216-095-00	RES,CHIP	82K	5%	1/10W
R624	1-216-089-91	RES,CHIP	47K	5%	1/10W
R626	1-216-049-91	RES,CHIP	1K	5%	1/10W
R627	1-240-251-11	CMT,MELF	6.8	5%	10W
R629	1-247-747-11	CARBON	470	5%	1/2W F
R630	1-249-429-11	CARBON	10K	5%	1/4W F
R631	1-216-089-91	RES,CHIP	47K	5%	1/10W
R632	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R634	⚠ 1-218-265-91	METAL	8.2M	5%	1W
R635	1-216-492-11	METAL OXIDE	82K	5%	3W F
R636	1-215-924-00	METAL OXIDE	15K	5%	3W F
R637	1-216-492-11	METAL OXIDE	82K	5%	3W F
R639	1-216-363-00	METAL OXIDE	0.33	5%	2W F
R640	1-249-415-11	CARBON	680	5%	1/4W
R641	1-216-362-11	METAL OXIDE	0.27	5%	2W F
R642	1-249-419-11	CARBON	1.5K	5%	1/4W
R643	1-247-843-11	CARBON	3.3K	5%	1/4W
R644	1-249-419-11	CARBON	1.5K	5%	1/4W
R646	1-215-924-00	METAL OXIDE	15K	5%	3W F
R647	1-249-401-11	CARBON	47	5%	1/4W
R648	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R649	1-249-417-11	CARBON	1K	5%	1/4W
R650	1-215-882-00	METAL OXIDE	22	5%	2W F
R652	1-215-900-11	METAL OXIDE	22K	5%	2W F
R653	1-215-873-00	METAL OXIDE	4.7K	5%	1W F
R657	1-260-127-11	CARBON	220K	5%	1/2W
R659	1-216-049-91	RES,CHIP	1K	5%	1/10W
R661	1-215-873-00	METAL OXIDE	4.7K	5%	1W F
R680	1-216-308-00	RES,CHIP	4.7	5%	1/10W
R901	1-249-411-11	CARBON	330	5%	1/4W
R902	1-249-411-11	CARBON	330	5%	1/4W
R903	1-216-022-00	RES,CHIP	75	5%	1/10W
R904	1-216-033-00	RES,CHIP	220	5%	1/10W
R905	1-216-113-00	RES,CHIP	470K	5%	1/10W
R906	1-216-077-00	RES,CHIP	15K	5%	1/10W
R907	1-216-113-00	RES,CHIP	470K	5%	1/10W
R908	1-216-077-00	RES,CHIP	15K	5%	1/10W
R909	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R910	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R911	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R912	1-216-041-00	RES,CHIP	470	5%	1/10W
R913	1-216-049-91	RES,CHIP	1K	5%	1/10W
R914	1-216-055-00	RES,CHIP	1.8K	5%	1/10W
R915	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R916	1-216-017-91	RES,CHIP	47	5%	1/10W
R917	1-216-041-00	RES,CHIP	470	5%	1/10W
R918	1-216-041-00	RES,CHIP	470	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

A (KV-XF51M65) **C3**

REF. NO.		PART NO.	DESCRIPTION			REMARK
			<RELAY>			
RY601	⚠	1-755-266-11	RELAY, AC POWER			
			<SWITCH>			
S502		1-572-707-11	SWITCH, LEVER			
S600	⚠	1-571-433-31	SWITCH, PUSH (AC POWER)			
S901		1-692-431-21	SWITCH, TACTILE			
S902		1-692-431-21	SWITCH, TACTILE			
S903		1-692-431-21	SWITCH, TACTILE			
S904		1-692-431-21	SWITCH, TACTILE			
S905		1-692-431-21	SWITCH, TACTILE			
S906		1-692-431-21	SWITCH, TACTILE			
S907		1-692-431-21	SWITCH, TACTILE			
			<TRANSFORMER>			
T501		1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE			
T503	⚠	1-453-293-11	TRANSFORMER ASSY, FLYBACK (NX-1748/M3A4)			
T601		1-424-682-11	TRANSFORMER, LINE FILTER			
T603	⚠	1-433-512-31	TRANSFORMER, CONVERTER (SRT)			
T604	⚠	1-431-852-11	TRANSFORMER, CONVERTER (SRT)			
			<THERMISTOR>			
THP600		1-810-961-11	THERMISTOR, POSITIVE			
			<TUNER>			
TU101		8-598-451-00	TUNER, FSS BTF-WG441			
			<CRYSTAL>			
X001		1-579-125-11	VIBRATOR, CERAMIC			
X301		1-781-134-21	VIBRATOR, CRYSTAL			
X302		1-781-132-21	VIBRATOR, CRYSTAL			

****

	*	A-1331-884-A	C3 BOARD, COMPLETE			
			**********			
		4-382-854-11	SCREW (M3X10), P, SW (+)			
			<CAPACITOR>			
C701		1-162-114-00	CERAMIC	0.0047MF		2KV
C702		1-102-074-00	CERAMIC	0.001MF	10%	50V
C703		1-107-651-11	ELECT	4.7MF	20%	250V
C704		1-130-202-00	FILM	0.022MF	5%	400V
C706		1-104-664-11	ELECT	47MF	20%	16V
C708		1-102-114-00	CERAMIC	470PF	10%	50V
C709		1-102-114-00	CERAMIC	470PF	10%	50V
C710		1-102-114-00	CERAMIC	470PF	10%	50V
C712		1-102-116-00	CERAMIC	680PF	10%	50V
C713		1-102-116-00	CERAMIC	680PF	10%	50V
C714		1-102-116-00	CERAMIC	680PF	10%	50V
C716		1-126-933-11	ELECT	100MF	20%	16V
C717		1-101-880-00	CERAMIC	47PF	5%	50V
C736		1-102-114-00	CERAMIC	470PF	10%	50V
C737		1-102-114-00	CERAMIC	470PF	10%	50V
C746		1-102-114-00	CERAMIC	470PF	10%	50V
			<CONNECTOR>			
CN701		1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P			
CN702		1-695-915-11	TAB (CONTACT)			
CN703	*	1-564-509-11	PLUG, CONNECTOR 6P			
CN704		1-695-915-11	TAB (CONTACT)			
			<DIODE>			
D701		8-719-911-19	DIODE 1SS119-25			
D702		8-719-911-19	DIODE 1SS119-25			
D703		8-719-911-19	DIODE 1SS119-25			
D707		8-719-911-19	DIODE 1SS119-25			
D708		8-719-911-19	DIODE 1SS119-25			
D709		8-719-911-19	DIODE 1SS119-25			
D710		8-719-911-19	DIODE 1SS119-25			
D711		8-719-911-19	DIODE 1SS119-25			
D712		8-719-911-19	DIODE 1SS119-25			
D713		8-719-911-19	DIODE 1SS119-25			
D714		8-719-911-19	DIODE 1SS119-25			
D715		8-719-911-19	DIODE 1SS119-25			
D716		8-719-911-19	DIODE 1SS119-25			
D717		8-719-121-26	DIODE RD9.1ESL2			
			<JACK>			
J701	⚠	1-251-239-11	SOCKET, CRT			
			<COIL>			
L701		1-410-667-31	INDUCTOR	22UH		
L710		1-408-609-41	INDUCTOR	33UH		
L711		1-408-609-41	INDUCTOR	33UH		
L712		1-408-609-41	INDUCTOR	33UH		
			<TRANSISTOR>			
Q704		8-729-326-11	TRANSISTOR 2SC2611			
Q705		8-729-326-11	TRANSISTOR 2SC2611			
Q706		8-729-326-11	TRANSISTOR 2SC2611			
Q707		8-729-200-17	TRANSISTOR 2SA1091-O			
Q708		8-729-200-17	TRANSISTOR 2SA1091-O			
Q709		8-729-200-17	TRANSISTOR 2SA1091-O			
Q710		8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q711		8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q712		8-729-119-78	TRANSISTOR 2SC2785-HFE			
			<RESISTOR>			
R703		1-249-496-11	CARBON	100K	5%	1/2W
R705		1-216-380-11	METAL OXIDE	8.2	5%	2W F

C3 **F** **H4** (KV-XF51M65 ONLY) **J3** (KV-XF51M65 ONLY)

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION			REMARK
R706	1-215-417-00	METAL	680	1% 1/4W	
R707	1-215-413-00	METAL	470	1% 1/4W	
R708	1-216-379-11	METAL OXIDE	6.8	5% 2W	F
R710	1-215-922-11	METAL OXIDE	6.8K	5% 3W	F
R711	1-247-752-11	CARBON	1K	5% 1/2W	
R712	1-215-922-11	METAL OXIDE	6.8K	5% 3W	F
R713	1-247-752-11	CARBON	1K	5% 1/2W	
R714	1-215-922-11	METAL OXIDE	6.8K	5% 3W	F
R715	1-247-752-11	CARBON	1K	5% 1/2W	
R719	1-215-480-00	METAL	300K	1% 1/4W	
R720	1-249-923-11	CARBON	1K	5% 1/4W	F
R721	1-215-489-00	METAL	680K	1% 1/4W	
R722	1-249-923-11	CARBON	1K	5% 1/4W	F
R723	1-215-479-00	METAL	270K	1% 1/4W	
R724	1-249-923-11	CARBON	1K	5% 1/4W	F
R725	1-249-421-11	CARBON	2.2K	5% 1/4W	
R726	1-249-421-11	CARBON	2.2K	5% 1/4W	
R727	1-249-421-11	CARBON	2.2K	5% 1/4W	
R728	1-249-407-11	CARBON	150	5% 1/4W	
R729	1-249-407-11	CARBON	150	5% 1/4W	
R730	1-249-407-11	CARBON	150	5% 1/4W	
R731	1-249-399-11	CARBON	33	5% 1/4W	
R732	1-249-399-11	CARBON	33	5% 1/4W	
R733	1-249-399-11	CARBON	33	5% 1/4W	
R734	1-247-739-11	CARBON	100	5% 1/2W	
R738	1-247-807-31	CARBON	100	5% 1/4W	
R739	1-247-807-31	CARBON	100	5% 1/4W	
R740	1-247-807-31	CARBON	100	5% 1/4W	
R755	1-249-418-11	CARBON	1.2K	5% 1/4W	
R756	1-249-418-11	CARBON	1.2K	5% 1/4W	
R757	1-249-418-11	CARBON	1.2K	5% 1/4W	
		<VARIABLE RESISTOR>			
RV702	1-241-656-21	RES, ADJ, METAL FILM 110M			

****

*	A-1241-355-A	F BOARD, COMPLETE
		**********
	1-533-223-11	HOLDER, FUSE
*	4-374-846-01	COVER, CAPACITOR, CAP TYPE
		<CAPACITOR>
C654	1-117-703-11	CERAMIC 0.0047MF 99% 250V
C4602 ⚠	1-104-708-51	FILM 0.1MF 20% 250V
		<CONNECTOR>
CN4601*	1-580-843-11	PIN, CONNECTOR (POWER)
CN4602*	1-580-843-11	PIN, CONNECTOR (POWER)
CN4603	1-695-915-11	TAB (CONTACT)
		<FUSE>
F4601 ⚠	1-532-237-11	FUSE, TIME-LAG (BET) 3.15A/250V
		<RESISTOR>
R4601 ⚠	1-202-719-91	SOLID 1M 10% 1/2W
		<TRANSFORMER>
T4601 ⚠	1-424-391-11	TRANSFORMER, LINE FILTER (KV-XF21M30)
T4601	1-424-682-11	TRANSFORMER, LINE FILTER (KV-XF21M50 XF51M65)
T4602 ⚠	1-424-391-11	TRANSFORMER, LINE FILTER (KV-XF21M30)
T4602	1-424-682-11	TRANSFORMER, LINE FILTER (KV-XF21M50/XF51M65)
		<VARISTOR>
VDR461	1-801-073-31	VARISTOR TNR14V471K660

****

*	A-1372-601-A	H4 BOARD, COMPLETE (KV-XF51M65 ONLY)
		**********
		<CONNECTOR>
CN4901*	1-564-507-11	PLUG, CONNECTOR 4P
CN4902*	1-564-509-11	PLUG, CONNECTOR 6P
CN4903*	1-564-507-11	PLUG, CONNECTOR 4P
		<JACK>
J4901	1-750-264-11	JACK

****

*	A-1388-241-A	J3 BOARD, COMPLETE (KV-XF51M65 ONLY)
		**********
		<CONNECTOR>
CN3451*	1-564-518-11	PLUG, CONNECTOR 3P

J3 (KV-XF51M65 ONLY) **K1 (KV-XF51M65 ONLY)** **V1 (KV-XF51M65 ONLY)**

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<DIODE>			
D3451	8-719-110-72	DIODE RD30ESB2			
D3452	8-719-110-72	DIODE RD30ESB2			
D3453	8-719-110-72	DIODE RD30ESB2			
D3454	8-719-110-72	DIODE RD30ESB2			
		<JACK>			
J3451	1-694-467-11	TERMINAL, PUSH (2P)			

****

*	A-1380-606-A	K1 BOARD, COMPLETE (KV-XF51M65 ONLY) **********			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C4201	1-126-961-11	ELECT	2.2MF	20%	50V
C4202	1-126-961-11	ELECT	2.2MF	20%	50V
C4203	1-130-495-00	MYLAR	0.1MF	5%	50V
C4204	1-126-961-11	ELECT	2.2MF	20%	50V
C4205	1-130-495-00	MYLAR	0.1MF	5%	50V
C4206	1-126-964-11	ELECT	10MF	20%	50V
C4208	1-126-934-11	ELECT	220MF	20%	16V
C4209	1-126-943-11	ELECT	2200MF	20%	25V
C4210	1-126-961-11	ELECT	2.2MF	20%	50V
C4211	1-126-961-11	ELECT	2.2MF	20%	50V
C4212	1-128-551-11	ELECT	22MF	20%	25V
C4213	1-126-943-11	ELECT	2200MF	20%	25V
C4214	1-126-943-11	ELECT	2200MF	20%	25V
C4215	1-126-933-11	ELECT	100MF	20%	16V
C4216	1-126-934-11	ELECT	220MF	20%	16V
C4217	1-126-964-11	ELECT	10MF	20%	50V
C4273	1-126-964-11	ELECT	10MF	20%	50V
		<CONNECTOR>			
CN4201	* 1-564-510-11	PLUG, CONNECTOR 7P			
CN4202	* 1-564-507-11	PLUG, CONNECTOR 4P			
CN4203	* 1-564-506-11	PLUG, CONNECTOR 3P			
CN4204	* 1-564-507-11	PLUG, CONNECTOR 4P			
		<DIODE>			
D4205	8-719-911-19	DIODE 1SS119-25			
		<IC>			
IC4200	8-759-980-43	IC TDA2009A			

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<IC LINK>			
PS4200	1-532-675-21	LINK, IC 1.5A/150V			
		<TRANSISTOR>			
Q4201	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q4203	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q4205	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q4206	8-729-224-62	TRANSISTOR 2SK246-GR			
		<RESISTOR>			
R4201	1-249-377-11	CARBON	0.47	5%	1/4W F
R4202	1-249-377-11	CARBON	0.47	5%	1/4W F
R4203	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R4204	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R4205	1-216-049-91	RES,CHIP	1K	5%	1/10W
R4206	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R4207	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R4208	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4209	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R4210	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4211	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R4212	1-216-049-91	RES,CHIP	1K	5%	1/10W
R4213	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R4214	1-216-041-00	RES,CHIP	470	5%	1/10W
R4215	1-216-025-91	RES,CHIP	100	5%	1/10W
R4217	1-216-025-91	RES,CHIP	100	5%	1/10W
R4218	1-249-441-11	CARBON	100K	5%	1/4W
R4219	1-216-097-91	RES,CHIP	100K	5%	1/10W
R4221	1-249-426-11	CARBON	5.6K	5%	1/4W
R4222	1-249-429-11	CARBON	10K	5%	1/4W
R4230	1-216-057-00	RES,CHIP	2.2K	5%	1/10W

****

*	A-1347-155-A	V1 BOARD, COMPLETE (KV-XF51M65 ONLY) **********			
		<CAPACITOR>			
C801	1-104-664-11	ELECT	47MF	20%	16V
C805	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C806	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C815	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C816	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C817	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C818	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C820	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C821	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C822	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C823	1-126-933-11	ELECT	100MF	20%	16V
C826	1-126-963-11	ELECT	4.7MF	20%	50V

V1 (KV-XF51M65 ONLY)

REF. NO.	PART NO.	DESCRIPTION			REMARK
C829	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C830	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C831	1-126-933-11	ELECT	100MF	20%	16V
C832	1-126-964-11	ELECT	10MF	20%	50V
C835	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C837	1-126-933-11	ELECT	100MF	20%	16V
		<CONNECTOR>			
CN801 *	1-774-812-11	CONNECTOR, BOARD TO BOARD 7P			
CN803 *	1-774-812-11	CONNECTOR, BOARD TO BOARD 7P			
		<DIODE>			
D802	8-719-914-44	DIODE DAP202K			
D803	8-719-105-46	DIODE RD3.3M-B2			
D804	8-719-105-91	DIODE RD5.6M-B2			
D806	8-719-988-61	DIODE 1SS355TE-17			
D807	8-719-988-61	DIODE 1SS355TE-17			
		<FERRITE BEAD>			
FB801	1-410-397-21	FERRITE	1.1UH		
FB802	1-410-397-21	FERRITE	1.1UH		
FB803	1-410-397-21	FERRITE	1.1UH		
FB804	1-410-682-31	INDUCTOR	470UH		
FB805	1-410-397-21	FERRITE	1.1UH		
		<IC>			
IC801	8-759-476-87	IC SAA5261			
		<CHIP CONDUCTOR>			
JR801	1-216-295-91	SHORT	0		
JR802	1-216-295-91	SHORT	0		
JR804	1-216-295-91	SHORT	0		
JR805	1-216-295-91	SHORT	0		
JR806	1-216-295-91	SHORT	0		
JR807	1-216-295-91	SHORT	0		
JR808	1-216-295-91	SHORT	0		
		<TRANSISTOR>			
Q801	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q803	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q805	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q806	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q807	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q808	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q810	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q811	8-729-019-01	TRANSISTOR 2SD2394-EF			
Q812	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q813	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q814	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q817	8-729-900-53	TRANSISTOR DTC114EK			
Q818	8-729-120-28	TRANSISTOR 2SC1623-L5L6			

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<RESISTOR>			
R800	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R801	1-216-295-91	SHORT	0		
R802	1-216-025-91	RES,CHIP	100	5%	1/10W
R803	1-216-295-91	SHORT	0		
R804	1-216-295-91	SHORT	0		
R805	1-216-295-91	SHORT	0		
R807	1-216-295-91	SHORT	0		
R813	1-216-295-91	SHORT	0		
R820	1-216-073-00	RES,CHIP	10K	5%	1/10W
R821	1-216-083-00	RES,CHIP	27K	5%	1/10W
R822	1-216-025-91	RES,CHIP	100	5%	1/10W
R824	1-216-295-91	SHORT	0		
R825	1-216-295-91	SHORT	0		
R827	1-216-295-91	SHORT	0		
R828	1-216-025-91	RES,CHIP	100	5%	1/10W
R829	1-216-025-91	RES,CHIP	100	5%	1/10W
R830	1-216-295-91	SHORT	0		
R831	1-216-295-91	SHORT	0		
R832	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R835	1-216-295-91	SHORT	0		
R839	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R841	1-216-025-91	RES,CHIP	100	5%	1/10W
R842	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R843	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R844	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R845	1-216-049-91	RES,CHIP	1K	5%	1/10W
R846	1-216-049-91	RES,CHIP	1K	5%	1/10W
R847	1-216-049-91	RES,CHIP	1K	5%	1/10W
R848	1-216-049-91	RES,CHIP	1K	5%	1/10W
R849	1-216-049-91	RES,CHIP	1K	5%	1/10W
R850	1-216-105-91	RES,CHIP	220K	5%	1/10W
R851	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R853	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R857	1-216-081-00	RES,CHIP	22K	5%	1/10W
R858	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R861	1-216-049-91	RES,CHIP	1K	5%	1/10W
R862	1-260-095-11	CARBON	470	5%	1/2W
R863	1-216-049-91	RES,CHIP	1K	5%	1/10W
R864	1-216-041-00	RES,CHIP	470	5%	1/10W
R866	1-215-880-00	METAL OXIDE	10	5%	2W F
R871	1-216-037-00	RES,CHIP	330	5%	1/10W
R879	1-216-073-00	RES,CHIP	10K	5%	1/10W
R880	1-216-041-00	RES,CHIP	470	5%	1/10W
R882	1-216-049-91	RES,CHIP	1K	5%	1/10W
R884	1-216-025-91	RES,CHIP	100	5%	1/10W
R888	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R889	1-216-073-00	RES,CHIP	10K	5%	1/10W
R890	1-216-081-00	RES,CHIP	22K	5%	1/10W
R894	1-216-073-00	RES,CHIP	10K	5%	1/10W
R895	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R896	1-216-073-00	RES,CHIP	10K	5%	1/10W
R897	1-216-073-00	RES,CHIP	10K	5%	1/10W
R898	1-216-065-91	RES,CHIP	4.7K	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

V1 (KV-XF51M65 ONLY) **VM1**

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<CRYSTAL>			
X801	1-578-774-11	VIBRATOR, CRYSTAL			
**********					
*	A-1342-453-A	VM1 BOARD, COMPLETE			
		**********			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C5902	1-107-883-11	ELECT	330MF	20%	16V
C5903	1-161-830-00	CERAMIC	0.0047MF		500V
C5905	1-126-925-11	ELECT	470MF	20%	10V
C5906	1-130-491-00	MYLAR	0.047MF	5%	50V
C5907	1-107-638-11	ELECT	33MF	20%	160V
C5908	1-106-383-00	MYLAR	0.047MF	10%	200V
C5909	1-126-968-11	ELECT	100MF	20%	50V
C5910	1-130-471-00	MYLAR	0.001MF	5%	50V
C5911	1-107-949-11	ELECT	2.2MF	20%	160V
C5912	1-104-999-11	MYLAR	0.1MF	10%	200V
C5913	1-130-471-00	MYLAR	0.001MF	5%	50V
C5914	1-126-933-11	ELECT	100MF	20%	16V
C5916	1-130-491-00	MYLAR	0.047MF	5%	50V
C5917	1-126-925-11	ELECT	470MF	20%	10V
C5918	1-115-341-51	CERAMIC	120PF	10%	500V
C5920	1-126-964-11	ELECT	10MF	20%	50V
C5921	1-101-888-00	CERAMIC	68PF	5%	50V
		<CONNECTOR>			
CN5901	* 1-564-510-11	PLUG, CONNECTOR 7P			
CN5904	* 1-770-723-11	CONNECTOR, BOARD TO BOARD 8P			
		<DIODE>			
D5901	8-719-911-19	DIODE 1SS119-25			
D5902	8-719-110-88	DIODE RD39ESB2			
D5903	8-719-911-19	DIODE 1SS119-25			
D5904	8-719-110-88	DIODE RD39ESB2			
D5905	8-719-911-19	DIODE 1SS119-25			
D5906	1-249-406-11	CARBON	120	5%	1/4W
D5907	1-249-406-11	CARBON	120	5%	1/4W
		<COIL>			
L5901	1-414-187-11	INDUCTOR	47UH		
L5902	1-414-856-11	INDUCTOR	10UH		
		<TRANSISTOR>			
Q5901	8-729-230-45	TRANSISTOR 2SC2458-YGR			
Q5902	8-729-017-05	TRANSISTOR 2SA1837			
Q5903	8-729-230-45	TRANSISTOR 2SC2458-YGR			
Q5904	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q5905	8-729-230-45	TRANSISTOR 2SC2458-YGR			
Q5906	8-729-017-06	TRANSISTOR 2SC4793			
Q5908	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q5909	8-729-119-78	TRANSISTOR 2SC2785-HFE			
		<RESISTOR>			
R5901	1-247-815-91	CARBON	220	5%	1/4W
R5902	1-249-414-11	CARBON	560	5%	1/4W F
R5903	1-247-735-11	CARBON	47	5%	1/2W F
R5904	1-249-411-11	CARBON	330	5%	1/4W
R5905	1-249-417-11	CARBON	1K	5%	1/4W
R5906	1-249-417-11	CARBON	1K	5%	1/4W
R5907	1-249-417-11	CARBON	1K	5%	1/4W
R5908	1-249-383-11	CARBON	1.5	5%	1/4W F
R5909	1-247-815-91	CARBON	220	5%	1/4W
R5910	1-249-403-11	CARBON	68	5%	1/4W
R5911	1-249-439-11	CARBON	68K	5%	1/4W
R5912	1-249-437-11	CARBON	47K	5%	1/4W
R5914	1-249-403-11	CARBON	68	5%	1/4W
R5915	1-249-429-11	CARBON	10K	5%	1/4W
R5916	1-249-419-11	CARBON	1.5K	5%	1/4W
R5917	1-249-416-11	CARBON	820	5%	1/4W
R5918	1-249-429-11	CARBON	10K	5%	1/4W
R5919	1-249-417-11	CARBON	1K	5%	1/4W F
R5920	1-249-439-11	CARBON	68K	5%	1/4W
R5921	1-215-912-11	METAL OXIDE	150	5%	3W F
R5922	1-249-414-11	CARBON	560	5%	1/4W
R5923	1-249-383-11	CARBON	1.5	5%	1/4W F
R5925	1-249-401-11	CARBON	47	5%	1/4W F
R5929	1-215-880-00	METAL OXIDE	10	5%	2W F
R5930	1-249-413-11	CARBON	470	5%	1/4W
R5931	1-249-413-11	CARBON	470	5%	1/4W
R5932	1-249-413-11	CARBON	470	5%	1/4W
R5933	1-249-413-11	CARBON	470	5%	1/4W
R5934	1-249-430-11	CARBON	12K	5%	1/4W
R5935	1-249-429-11	CARBON	10K	5%	1/4W
**********					
		MISCELLANEOUS			
		**********			
⚠	1-416-946-11	COIL, DEMAGNETIC			
	1-417-151-21	MATCHING TRANSFORMER, ANTENNA (KV-XF21M50 ONLY)			
	1-452-032-00	MAGNET,DISC			
	1-452-094-00	CIRCULAR DISC MAGNET B			
	1-501-730-41	ANTENNA, TELESCOPIC (KV-XF21M50 ONLY)			
	1-505-937-21	SPEAKER (10CM)			
	1-529-125-11	SPEAKER (13X7CM)			
⚠	1-574-062-22	CORD, POWER (WITH CONNECTOR) 2.5A/250V (KV-XF21M50/XF51M65)			
⚠	1-574-358-51	CORD, POWER (WITH CONNECTOR) 7.5A/250V (KV-XF21M30)			
	8-451-505-11	DEFLECTION YOKE (Y21RSA-S)			

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK
	8-453-011-31	NA299-S2	
	⚠ 8-738-809-05	PICTURE TUBE (A51LPT70X) (KV-XF21M30 XF51M65)	
	⚠ 8-738-812-05	PICTURE TUBE (A51LPT70X) (KV-XF21M50)	

****

ACCESSORIES AND PACKING MATERIALS
****

	1-417-151-21	MATCHING TRANSFORMER, ANTENNA (KV-XF21M50 ONLY)
	1-501-730-41	ANTENNA, TELESCOPIC (KV-XF21M50 ONLY)
	3-701-910-00	SCREW, SPECIAL (DIA. 3.8X20)
	3-865-541-21	MANUAL, INSTRUCTION (KV-XF21M50)
	3-865-541-31	MANUAL, INSTRUCTION (KV-XF21M30)
	3-866-144-11	MANUAL, INSTRUCTION (KV-XF51M65)
*	4-039-372-01	BAG, PROTECTION
*	4-067-169-01	CUSHION (UPPER)(ASSY) (KV-XF21M30/XF21M50)
*	4-068-955-01	CUSHION (UPPER)(ASSY) (KV-XF51M65)
*	4-067-170-01	CUSHION (LOWER)(ASSY) (KV-XF21M30/XF21M50)
*	4-068-958-01	CUSHION (LOWER)(ASSY) (KV-XF51M65)
*	4-067-168-01	INDIVIDUAL CARTON (KV-XF21M30/XF21M50)
*	4-069-601-01	INDIVIDUAL CARTON (KV-XF51M65)
	4-392-003-11	BAND, HOLD
	4-392-004-11	CLIP

****

REMOTE COMMANDER
****

	1-418-163-11	REMOTE COMMANDER (RM-952)
	9-939-697-01	BATTERY COVER, REMOTE COMMANDER

© 1999. 1